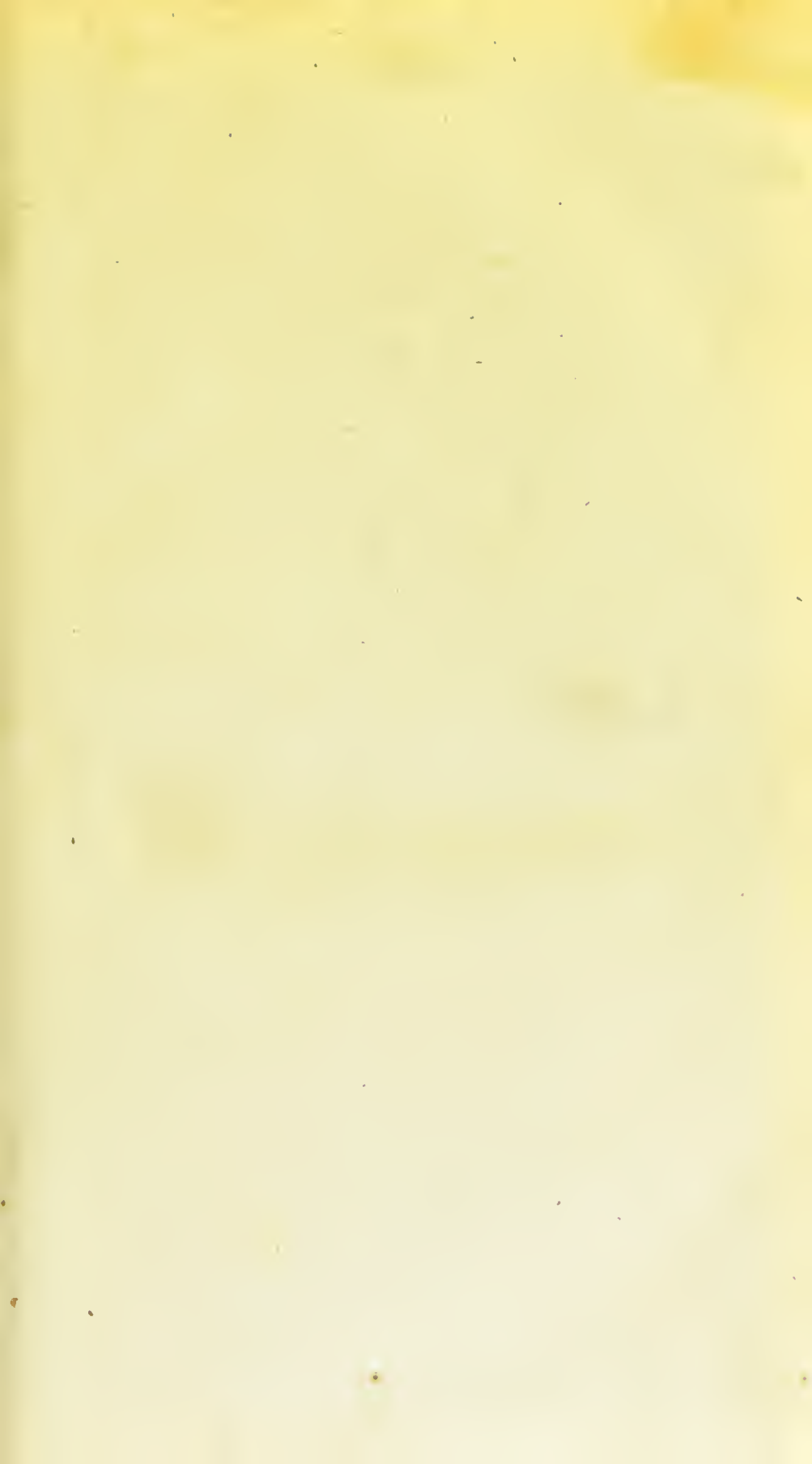


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THE
CHIRURGICAL WORKS
OF
PERCIVALL POTT, F.R.S.

AND
SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

VOL. III.

THE
CHIRURGICAL WORKS
OF
PERCIVAL POTT, F.R.S.

SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

A NEW EDITION, WITH HIS LAST CORRECTIONS.

TO WHICH ARE ADDED

A Short Account of the Life of the Author,
A METHOD OF
CURING THE HYDROCELE BY INJECTION,
AND
OCCASIONAL NOTES AND OBSERVATIONS.

By JAMES EARLE, Esq.

SURGEON EXTRAORDINARY TO HIS MAJESTY'S HOUSEHOLD,
' AND SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

IN THREE VOLUMES.

VOL. III.

*A cætis potius et exploratis petendum esse præsidium; id est, his quæ Experientia in
ipsis curationibus docuerit; sicut in cæteris omnibus artibus: nam ne Agricola quidem
aut Gubernatorem Disputatione, sed Ufu fieri.*

A. CORN. CELSUS.

LONDON:

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A N A C C O U N T

OF THE

METHOD OF OBTAINING A PERFECT OR RADICAL CURE

OF THE

H Y D R O C E L E,

BY MEANS OF A SETON.

THE HISTORY OF

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A N A C C O U N T, &c.

AN Hydrocele is so irksome a disease to the indigent and laborious, furnishes even the easy and opulent with such disagreeable ideas and apprehensions, and is to all who are afflicted with it so troublesome and inconvenient, that every rational attempt toward relieving mankind from such an evil, will, I make no doubt, be favourably received.

It is now some years since I first began to make particular inquiry into the nature of this, and some other diseases of the testicle, and the usual methods of treating them; an inquiry, which they appeared to me, for many reasons, both to deserve and require. The result I communicated to the public, under the title of “ A Treatise
“ on the Hydrocele, or Watery Rupture,
“ and other diseases of the testicle, its coats
“ and vessels;” in which I endeavoured to be as precise, and as explicit as I could.

4 RADICAL CURE OF THE HYDROCELE

One part of this tract contains an examination of the various means, which, at different times, have either accidentally produced a radical cure, or have been professedly proposed, and practised for such purpose.

Among other means used to obtain this end, I mentioned the Seton; and spoke of it as that which, for many reasons, appeared to me to be preferable to all others; as a method which I had for some time practised with great success; and as that which, if nothing should occur to induce me to change my opinion, I should continue to make use of.

Since that time I have had frequent opportunities of repeating the experiment; and it has so constantly and uniformly answered my expectation, that my opinion concerning it is determined; and I am convinced, that it is the most successfully efficacious of any.

This might be urged, and would perhaps be admitted, as a good reason for laying my thoughts on the subject again before the public; but I have others also to plead in vindication of the few following pages.

In the first place, I think that I have considerably and materially improved the operation

ation and process; and have rendered it less painful and more certain.

In the second, I find, that what I said of it in the general treatise, has not been so clearly and perfectly understood as I could have wished; and in consequence either of brevity and obscurity on my part, or misintelligence on the part of some of my readers, my true meaning has not been received; and I have been subjected to the frequent interruption of troublesome correspondences on the subject.

And, in the third place, I might add, that some few gentlemen of consequence, who have by this means been cured, have requested this publication.

A minute account of the nature and circumstances of the disease, would be a mere repetition of what I have already said at large in the book referred to; would be therefore unnecessary, and beside my present purpose: a short and cursory one may perhaps throw just as much light on the subject, as may serve to render the description of the operation, and the treatment after it, more easily intelligible.

The common bag in which both the tes-

ticles are included; is called the Scrotum, and consists of epidermis, skin, and that loose cellular membrane, which is here called the Dartos; to which might perhaps be added, the expanded fibres of the cremaster muscle on each side. The proper coats of the testicle, are, the tunica albuginea, and the tunica vaginalis. The former of these immediately invests the vascular compages of the testis, and is that coat with which it is covered while within the cavity of the abdomen, before birth. The latter is formed on the outside of the said cavity, is a process of the peritoneum, and is placed ready for the reception of the testicle when it shall be thrust forth through the groin into the scrotum. Between the vascular structure of the testicle, and the tunica albuginea, there is no vacuity; but the external surface of the gland is in every part firmly adherent to, and connected with the internal one of the investing coat: the tunica vaginalis forms a hollow cavity, or bag, which loosely and unconnectedly envelopes the testicle, covered by its albuginea.

When I say loosely and unconnectedly, I would wish to be understood aright. I do
not

not mean that the testicle hangs in the middle of the tunica vaginalis, (like a clapper within a bell) and has no connexion with it; I mean, that all the superior, anterior, and lateral parts of the tunica vaginalis are loose from, and unconnected with, the testicle, which is at the same time firmly united to its posterior part, in such manner, that if the cavity of the tunica vaginalis was to be distended with wind, such wind would occupy or fill all the loose and unconnected part, and produce a tumefaction not unlike to a hydrocele, while the testicle would be found firmly and immoveably attached to the hinder part of the said cavity so distended.

To prevent the accretion of these coats in those parts where they ought to be unconnected, and perhaps for some other purposes, the cavity of the tunica vaginalis is furnished with a fine lymph constantly exuding into it; which lymph is as constantly absorbed by proper vessels; so that, in a healthy and natural state, there never is any more of this fluid, within the bag, at a time than may just serve (beside what other purpose it may be intended for) to keep the two membranes from coming into imme-

diate dry contact, and cohesion with each other. This small quantity is sufficient to preserve the proper and natural cavity of the tunic; but never occasions any degree of intumescence, or any unnatural or diseased appearance of the part.

A deficiency, or total failure of the secretion of this fluid, will be followed by a partial or total coalescence of the two coats with each other; and consequently a total or partial abolition of the cavity: a superabundance, or a secretion of more than the absorbent vessels can take up, must, on the other hand, enlarge and distend the said cavity, by carrying all the loose unconnected part of the bag farther and farther from the testicle, in proportion to the quantity accumulated. The former, I do know to be sometimes, and I verily believe most frequently is, the consequence of a severe hernia humoralis, as well as of other inflammations of the testicle. The latter, among other diseases, produces the hydrocele or watery rupture.

This being the case, that is, the intumescence of the scrotal bag being caused by the gradual accumulation of a fluid,
which

which ought to have been absorbed, it is almost always produced gradually; and therefore has, in most instances, made some progress before it is taken notice of; especially by careless and inattentive people. For the same reason it will be found, that as it depends upon the circumstances of secretion and absorption; it will, in different people, make quicker or slower progress, according as the deposition shall happen to be quicker or slower, and the absorbent faculty, only more or less impaired, or totally obstructed. As this disease is confined to the cavity of the tunica vaginalis testis, and as this bag has no communication with the cavity of the belly, the tumefaction can never be lessened by any attempt toward reducing or returning it into the abdomen. For the same reason, it never is, nor can be liable to any alteration of size, or temporary distention, from the efforts or actions of coughing, sneezing, expulsion of fæces, &c. For the same reason, (I mean the confinement of the fluid within the cavity of the tunica vaginalis) the intumescence, when early attended to, will always be found in the lower part, and does not rise
above

above the upper part of the testicle, until the disease has made some progress, and the quantity is become considerable: therefore the spermatic process will always, in the early stage of this distemper, be capable of being felt perfectly and distinctly; although when the tumor has arrived to any considerable degree of size, the fluid does so conceal the testicle, as to render it not a very easy matter to find it. The three last circumstances, well attended to, will always serve to distinguish the hydrocele from the intestinal hernia or common rupture, at least in the beginning. To these might be added, several other characteristical marks of this distemper; such as, That being neither accompanied by, nor occasioning any inflammation, or irritation, it never gives pain, unless it be very rudely handled, or be permitted to attain such size as to be troublesome from its weight, or to be subject to excoriation from its magnitude; which may serve to distinguish it from the hernia humoralis, an inflammatory, and often a very painful, disorder. That if the fluid be thin and limpid, and the vaginal coat and membranes of the scrotum not thick,

thick, the tumor is often in some degree transparent; that is, the light of a candle or lamp may be seen through it. That constipation of the belly does not render it at all more tense, or produce any uneasiness in it while it lasts; neither does the removal of such obstruction or constipation at all lessen its volume, or make any alteration in it either to the eye, or to the finger. To all which ought always to be added, the *fluctuation of the fluid*.

The size and figure of the tumor, caused by this disease, are liable to considerable variety, dependent upon the quantity and consistence of the fluid accumulated; the time such accumulation may have taken up; the thickness or thinness of the vaginal bag, and membranes of the scrotum; and the equal or unequal manner in which these parts may have given way to the distention. Hence the tumor will be larger or smaller, round, flattish, pyriform, or globular; will be firm, tense, and resistant, or lax, soft, and easily compressible; smooth and regular in its surface, making one uniform figure, or divided by a kind of depression or stricture, which will make it appear as if the water
was

was in two distinct sacculi or bags ; it will also be more or less tense, as well as regular in its surface, as the contractile power of the scrotum, by means of the cremaster muscles, shall be more or less.

The qualities of consistence and colour in the contained fluid is also various : it is thin, aqueous, ropy, viscid, limpid, citrine, greenish, brown, bloody, clear, or turbid ; from each of which some small differences in the aspect, feel, weight, transparency or obscurity of the tumor will arise ; but are of no consequence with regard to any method of treatment, palliative or radical.

The methods of cure of a hydrocele are said to be two, one called the Palliative, the other the Radical ; the latter of which alone deserves the name of cure.

The former consists merely in letting out the water occasionally, and is so simple and so trifling an operation, that I shall say nothing more of it, than that I think a small trochar a much preferable instrument for this purpose on all accounts to the lancet, or any other.

The radical cures, as they are called, may be collected from the writings of several of
our

our predecessors. The general means they made use of were cautery, caustic, ligature, and tent. For the particulars relative to each of these, I must beg leave to refer my reader to the writers themselves, a minute detail of them not being consistent with the plan of these few sheets. But without entering into such disquisition, I believe I may venture to say, that whoever will give himself this trouble, will find, that all the means which were either professedly used to obtain a radical cure, or which ultimately and accidentally produced such event, were put in practice for three general reasons, or under the influence of three general opinions; the first of which was, that the fluid found in the sac of a hydrocele was always originally formed in the cavity of the belly, and descended from thence into the scrotum; the second, that it was a disease of the habit, as well as of the particular part; that is, that it was general, as well as local; the third, that the collection of liquor found in it was either the necessary cause, or the consequence, of a diseased state of the testis.

From these flow the applications of cautery and caustics to the groin, and of ligatures

tures on the spermatic process. From these are derived all the cautions to undertake the cure guardedly, to conduct it slowly, and to attend rigidly to the patient's general state by cathartics, alteratives, specifics, issues, &c. &c. &c. and to these we owe the experiments made to induce suppuration from the parts affected.

Not being acquainted with the anatomical structure and disposition of the parts concerned in the disease, they had very terrible as well as very erroneous notions concerning it. They supposed that the fluid contained in the cyst was thrown off from the habit as a kind of crisis; that the general constitution of the patient was by such deposition much relieved; that it prevented many other, and those worse disorders, and, either that a morbid state of the testicle and epididymis concurred in producing the fluid, or that the same parts necessarily became diseased from lying in it. They therefore concluded, that although a radical or perfect cure might be obtained by certain means, or that certain means having been found now and then to have produced such event, they might with probability be expected to

answer such purpose, yet the attempt ought never to be made without a strict attention to the general evils which might ensue, as well as to the particular ones proceeding from the supposed morbid state of the parts.

Inquiry and experiment have taught us better; have given us truer notions of the nature of the complaint; have induced us totally to lay aside many of the means used by our fore-fathers; and although we do still in some sort continue some of them, yet it is upon different principles, and with very different views.

The noxious quality of the fluid; the diseased state of the parts whence it proceeds, or wherein it is deposited; the critical, or depuratory nature of the deposition; the necessity of drawing off the water partially and at short intervals; and the fear of curing it locally lest the general habit should suffer; are all now known to be groundless apprehensions; and it being also known, that the collection of fluid is originally made in the tunica vaginalis only, and that it does not descend from the belly, all attempts towards preventing such descent are become equally absurd.

The

The testicle, although frequently somewhat enlarged in its dimensions, and relaxed in its texture, is known to be sound, to be otherwise unaffected, and unaltered, and to be fit for, and capable of performing the functions it was designed to execute; the fluid is acknowledged to be innoxious in its nature, neither proceeding from parts in a diseased state, nor causing any disease in the parts in which it is deposited, and with which it is in contact; but being accumulated in consequence of constant secretion, and deficient, or non-executed absorption, the intention of every rational practitioner, when he aims at a radical cure, is, to abolish the cavity of the tunica vaginalis, and thereby to prevent any future collection.

Whatever means can accomplish this end with the least fatigue, pain, or hazard, are certainly the best.

Of the incision I shall in this place say nothing, except that it lies under so many restraints from a variety of circumstances, is so improper for the majority of persons afflicted with the disease, and requires such nice attention and such judicious management,

ment, that it never can be recommended as fit for general practice.

The caustic, upon the rational principle of which I am now speaking, viz. that of abolishing the cavity of the tunica vaginalis, has been practised by many; and that with such success as to induce some to think it the best and most eligible method: Among these is Mr. Else, who has lately published his opinion on the subject.

The introduction of suppurative medicines, by means of a tent, was practised by some of even our remote predecessors; and, as they tell us, with success, even in complicated cases; that is, in cases where a diseased state of the testicle has been added to the hydrocele: but whoever will attentively consider their accounts of this matter, will see, that this method, whatever might be its accidental consequence, was not intended for the purpose which I am now speaking of.

Perhaps there is no part of surgery which was less understood by our ancestors, or concerning which they expressed themselves with so little precision, as the subject of diseases of the testicle: they have multiplied

and confounded them in such manner, and speak of them in such a jargon of unintelligible terms, that it is next to impossible to understand often what they really mean.

For a particular elucidation of this subject, the chirurgic world are much obliged to the late Professor Monro of Edinburgh, and Mr. Samuel Sharp, late of Guy's Hospital, now of Bath.

The accounts which many of the best among the writers in surgery, even quite into our own time, have given of the diseases of these parts, under the terms *sarcocele*, fungus attached to the spermatic vessels, fungus arising from the testis, *hydrocele*, and *hydro-sarcocele*, are error itself; and the operations which they describe, and recommend, are many of them coarse, and either impracticable, or very unfit for practice. But however from these accounts, strange and irrational as they are, we may collect that they conceived the diseases which they call the *hydro-sarcocele*, and the *caro adnata ad vasa spermatica*, to be (in contradistinction from the *sarcocele* and the fungus springing from the testicle,) curable diseases, the one by extirpation of the fungus, the other by suppuration.

No precise definition of what they have thought proper to call the hydro-sarcocele has been given by them, and therefore we have no better method of forming a judgment concerning it, than by considering the event and success of their method of treating what they have so called, with what we know concerning the structure of the testicle, its disorders, the means which we now find to be successful in them, and the disappointments, and disagreeable circumstances which sometimes occur in them.

Fabritius ab Aquapendente has been particular on what he calls the hydro-sarcocele, and has given an account of his method of curing it; but whoever is acquainted with diseases of the testicle, and will compare with such knowledge what Fabritius has said concerning his method and its success^a, will, I am inclined to believe, think on this subject as I do; which

^a “ Si carnosæ simul & aquosæ sit hernia, ego talem adhibeo
 “ curam. Seco cutem & incisionem facio & exiguam, & in
 “ loco potius altiori quam in fundo, inde turunda imposita,
 “ cum digestivo & pus movente medicamento procedo, neque
 “ unquam totum pus extraho, sed perpetuo bonam partem intus
 “ relinquo, quod sensim carnem corrodat & ita sanat.”

FAB. AB AQUAPENDENTE.

is, that the disease which he gave this hard complex name to, is nothing more than a true, simple hydrocele, in which the testis is somewhat enlarged beyond its natural size, and perhaps somewhat relaxed in its texture, in consequence of such enlargement; but still sound, and free from disease; still fit for, and capable of, executing its office.

That by his method he obtained a radical cure I make no doubt; his ‘*turunda digestivo et pus movente medicamento imbuta*,’ would most probably occasion a sloughing of the tunica vaginalis, and consequently an abolition of the bag or cavity; but whoever knows any thing of these matters, must know, that a testicle really and truly diseased would not bear such treatment; and therefore, that his success was owing to the state of the testicle *not being* what he supposed it to be, and what the term he makes use of implies.

The method of Fabritius was within a few years past adopted and practised by Ruysch.^b

The

^b “*Sanari quidem valet id mali pertuso scroto opo instrumenti trochert dicti, vel lanceola phlebotomica, ut aqua vulnere exeat, sed cito plerumque recrudescit malum.*

“*Si autem curationem aggredieris aperiendo scrotum a parte superioris,*

The means and conduct were nearly the same, and I have no doubt that the success was equal. But the same objection still remained; which was, that not only a suppuration was brought on, but the whole tunica vaginalis was so irritated and inflamed, that it necessarily became sloughy, and was entirely destroyed: an objection which had been made to the method by caustic; and which, I must acknowledge, is, in my opinion, an objection to it still.

The late professor Monro, whose observations on the diseases of the testicle are very pertinent and very ingenious, seemed to think that it was by no means impracticable, by means of a slight degree of irritation, to excite such an inflammation both in the tunica vaginalis and albuginea, as might occasion a coalescence of them with each other, and thereby answer the end of abolishing the cavity, without destroying any part of either tunic.

“superiori, ad latus, tumque vulnus turunda oblonga, unguento
 “rosaceo mercurio præcipitato rubro inuncto oppleveris, donec
 “lenis inflammatio, eique succedens suppuratio parva, membranules
 “fillantes putrescerit, tuncque eas tenaculo eduxeris,”
 &c.

RUYSCH.

C 3

I made

I made the experiment proposed by him, and found it sometimes successful, never hazardous, or prejudicial, but by no means certainly efficacious, or to be depended upon. The cannula, by its hardness and resistance, was a very unpleasant guest within the vaginal coat; and from its inflexibility, upon any unguarded motion of the patient, injured the testicle, and gave very acute pain; and the tent and bougie, which I occasionally substituted in its place, although they did not give so much pain, were liable to a considerable degree of uncertainty.

Uncertainty and hazard are certainly very different things, and the latter much preferable to the former: not to have injured a man by an experiment, affords some degree of consolation under a disappointment: but yet, when it is considered, that an operation and process of this kind is submitted to from choice, and not from necessity, if it fails of success, although no real harm be done either to the part, or to the constitution of the patient, both the loss of time and the confinement will become doubly irksome, as they will be found not
only

only not to have answered the end proposed, but not to have brought the patient at all nearer to a cure than he was before the attempts. The reflection is unpleasant to both parties.

Being, from the effects both of the cannula and tent, satisfied that there was no kind of hazard in the introduction of a foreign body into the cavity of the tunica vaginalis, nor from its remaining there, and having many opportunities of meeting with this disease in St. Bartholomew's, I determined to try what a seton would do toward raising such a degree of inflammation as might occasion a coalition of the two membranes, and effect the purpose proposed by professor Monro.^c The success fully answered my expectation.

In

^c His words are, " Considering how readily contiguous inflamed parts grow together, and how many instances there are of people having a radical cure made of this hydrocele by inflammations coming on the part, it would seem no unreasonable practice to endeavour a concretion of the two coats of the testicle when they are brought contiguous, after letting out the water through the cannula of a trochar, by artfully raising a sufficient degree of inflammation.

" This to be sure must be done cautiously, and so that the surgeon can reasonably expect to be master of the inflam-

In my general treatise on the diseases of the testicle, I mentioned and recommended it; but as I could not be certain what a greater length of time might produce to make me change my opinion, I mentioned it with some degree of caution.

Since that time I have embraced every opportunity, both in the hospital and out, of practising it, and that under some improvements; and as I can now speak positively to its success, I thought it right to give it to the public, who are always intitled to every benefit arising from the labours of every man whom they have honoured with any degree of confidence; and this as well on a principle of humanity as of gratitude.

What I have said of it in the general treatise is in the following words, p. 443.

“ mation; and therefore the application of all irritating medicines, the operation of which he could not immediately stop, or any single mechanical effort, the effect of which he could not be sure of, are not to be employed.

“ Suppose the cannula of the trochar was to be left, by the extremity of it rubbing against the testicle, an inflammation might be artfully raised, the cause of which might be taken away as soon as the surgeon thought fit.”

MEDICAL ESSAYS.

“ The

“ The point to be aimed at, is to excite
“ such a degree of inflammation; both in
“ the tunica vaginalis and tunica albuginea,
“ as shall occasion a general and perfect
“ cohesion between them; and this, if pos-
“ sible, without the production of slough or
“ abscess; without the hazard of gangrene,
“ and without that degree of symptomatic
“ fever which now and then attend both the
“ caustic and the incision; and which, when
“ they do happen, are so alarming both to
“ patient and surgeon.

“ These ends I have frequently obtained
“ by the use of a seton.

“ It is a method of cure mentioned by
“ Aquapendens from Guido, and others
“ before him, though their process was
“ somewhat different from mine. I have
“ several times tried it on subjects of very
“ different ages, some of them more than
“ fifty years old. It requires confinement
“ to bed only for a few days, after which
“ the patient may lie upon a couch to the
“ end of the attendance, which is generally
“ finished in about three weeks or a month
“ at farthest, and during all that time no
“ other process or regimen is necessary, than

“ what an inflammation of the same part
 “ from any other cause, (for example a
 “ hernia humoralis) would require.

“ The manner of performing it is as
 “ follows. Choose a time when the vagi-
 “ nal coat is moderately distended, and
 “ having pierced it with a trochar of tole-
 “ rable size, draw off the water; when
 “ that is done, introduce into the cannula
 “ a probe armed with a seton consisting
 “ of ten or twelve strings of candle-wick
 “ cotton; pass the probe as high to the
 “ upper part of the vaginal coat as you can,
 “ and on the end of that probe make an in-
 “ cision of such size as to enable you to
 “ pull it out easily, together with a part of
 “ its annexed seton; then cut off the probe,
 “ and tie the cotton very loosely, covering
 “ the orifices with pledgets. By the next
 “ day the seton will be found to have con-
 “ tracted such an adhesion to the tunica al-
 “ buginea as would cause a great deal of
 “ pain to detach; but this it is perfectly
 “ unnecessary to do, and it should be suffer-
 “ ed to remain without molestation. In
 “ about forty-eight hours the scrotum and
 “ testicle begin to swell and inflame; the
 “ patient

“ patient should then loose some blood, and
“ have a stool or two, and the whole tumefied part should be wrapped in a soft poultice, and suspended in a bag-truss.
“ The disease from this time bears the appearance of a large hernia humoralis, and must be treated in the same manner, by fomentation, cataplasm, &c.

“ The adhesion of the seton to the albuginea generally continues firm, and I never meddle with, or move it, till it becomes perfectly loose, which it seldom does for the first fortnight, or until the inflammation is going and the tumor subsiding.
“ By the time the seton becomes loose, the coalition of parts is universally and firmly accomplished. I then withdraw it, and heal the orifices with a superficial pledget, &c.”

This method was, as I said, in general very successful; but repeated trials furnished me with objections to some parts of it, and induced me to think that such parts might be amended.

I found that cutting upon the end of the probe was troublesome, both from its smallness and from its flexibility, and also that it

was

was sometimes difficult to keep it steady for the same reasons; and that it always required the assistance of another person's hand besides that of the operator: a circumstance one would always wish to avoid when possible. I found also, sometimes, that the seton of candle-wick cotton did not pass so easily as I could wish; and by rubbing the tunica albuginea too rudely, gave more pain than I liked. The seton as made of cotton, adhered, in some instances, too long and too firmly. From the intimate connection of the parts of the wet cotton with each other, it could never be brought away but entire; which, in some cases, occasioned an unnecessary waste of time. And, what was still worse, in two instances it adhered so firmly, that I was obliged to make a small incision to get it away at all.

All these inconveniences and objections I have now obviated and removed.

The instruments I now make use of are in the annexed plate and are,

A trochar, the diameter of whose cannula is very nearly, but not quite, one fourth of an inch: another cannula, which I call the seton-cannula, which is made of silver, and

is





is of such diameter as just easily to pass through the cannula of the trochar, its length five inches: and a probe of six inches one half long, having at one extremity a fine steel trochar-point, and at the other an eye which carries the seton; which seton consists of just so much strong, coarse, white sewing-silk as will without difficulty pass through the latter cannula, but at the same time will fill it.

With the trochar the inferior and anterior part of the tumor is to be pierced, as in common palliative tapping. As soon as the water is discharged, and the perforator withdrawn, the seton-cannula is to be passed through that of the trochar, until it reaches the upper part of the tunica vaginalis, and is to be felt in the very upper part of the scrotum. This done, the probe armed with its seton is to be conveyed through the latter cannula, the vaginal coat and integuments to be pierced by its point, and the seton to be drawn through the cannula, until a sufficient quantity is brought out by the upper orifice. The two cannulæ are then to be withdrawn, and the operation is finished. It is executed in two or three seconds of time, and
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with little more pain than is felt in common-tapping.

By this method, every advantage which attended the former operation is obtained, and every inconvenience which it was liable to, is obviated and provided against.

The seton-cannula, by its firmness, bears tight against the place where the seton should be brought out; the trochar-point of the probe is kept from deviating by its confinement, and its point pierces through the skin immediately, and exactly in the place intended; while the seton by passing through the cannula is prevented from rubbing rudely over the testicle.

As soon as the operation is finished, I put the patient into bed, and immediately give him twenty or twenty-five drops of tinctura thebaica, which I repeat or not, *pro re nata*.

About the third day the testicle and scrotum begin to inflame and swell, and to put on the appearance of a hernia humoralis, or the swelled testicle which now and then attends a clap; and requires the same and no other kind of treatment; that is, fomentation, poultice, a suspensory bag, a cool, temperate regimen, and an open belly.

By these means the inflammation is soon and easily appeased. As soon as this end is accomplished, I permit the patient to get out of bed, and lie on a couch, or sit in a great chair with his legs up; and I generally give the cortex in some form or other twice or thrice a day.

The forenefs and tumefaction now diminish apace; and as soon as the parts are quite easy, which is generally about the tenth or twelfth day, I begin to withdraw the seton, taking out four, five, six, or seven threads of it at each dressing, which dressing consists of nothing more than a superficial pledget upon each of the orifices while they continue open, and a discutient cerate (such as the *ceratum saturnin.*) to cover the scrotum.

The discharge of matter from the orifices is small and trifling, no more than might be expected; the *tunica vaginalis* does not become sloughy, but is preserved entire; and the cure is accomplished merely by the coalescence or cohesion of the *tunica vaginalis*, with the *tunica albuginea*: an event, which, from what has fallen within my observation, I am inclined to believe, is most frequently the consequence of a severe *hernia humoralis*.

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In this circumstance, viz. the accomplishment of the cure, by adhesion of the two coats together, without any destruction of parts, consists the material difference between the method of cure by seton, and that by caustic.

All the practitioners who make use of the latter allow, that it produces a slough of the whole tunica vaginalis; that it destroys the whole bag or cyst, and that it is used with intention so to do.

In the cure by seton no slough is produced (at least I have never seen one), nor is the vaginal coat destroyed in any part of it; a firm cohesion is made between the two membranes, occasioned by the inflammation; and the cure is effected solely thereby.

I shall always most gladly embrace any opportunity to improve so noble and so really useful an art as surgery; but, at the same time, should be very sorry to have it supposed, that any partiality to my own opinion would make me misrepresent, or deviate from truth.

Since this pamphlet first appeared, Mr. ELSE has published a second edition of his account of the cure by caustic.

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In this he has recited two attempts by the seton, which were under the conduct of Mr. Martin, in St. Thomas's hospital.

I make no doubt that the circumstances were as Mr. ELSE has related them; but I must take the liberty of saying, that although I have practised the method of cure by seton, on a very considerable number of people, both in the hospital of St. Bartholomew, and out of it, of all ages, and in all circumstances, I have never yet met with that trouble, or those disagreeable symptoms which Mr. ELSE has related as happening to Mr. Martin's two patients; on the contrary, I am, from very frequently repeated experience, convinced, that the cure by the seton is by much the least hazardous, painful, or fatiguing, as well as the most expeditious and certain of any yet proposed^d.

^d Although I am as much a friend to simplicity in chirurgic operations as any man can be, and think that whatever can be well done by means of one instrument, is most frequently better done than by means of several; yet, in this instance, I cannot help thinking otherwise.

The intent of the seton-cannula is to defend the tunica albuginea testis from the rude passage of the silk over it: from the pain and other disagreeable circumstances which I have seen attend the omission of it, I must again recommend its use, though it does add to the instrumental apparatus. From frequent and repeated experience, I must also advise the using a skein of white silk instead of ribband or tape.

Whatever is used will necessarily contract some degree of adhesion to the testicle during its inflamed state; and this adhesion will unavoidably create some little trouble and uneasiness whenever the seton is withdrawn; but this pain and trouble will necessarily be least when the seton is composed of such materials as are capable of being taken away at different times instead of all at once.

When a seton of any kind is used for the purpose of making, or of continuing, a drain of matter, it is right to move it daily, and frequently to shift it; but in this case, as the intention is different, so should our conduct be: the intention is merely, by the residence of the seton, to excite such a slight degree of inflammation as shall occasion of an adhesion of the tunica albuginea testis to the tunica vaginalis, and not a suppuration; the moving it daily, or even at all until the proper time of taking it quite away, can do no good, and must, by exciting unnecessary pain, do harm.

I therefore must repeat my advice, to let it remain unmoved for a week or ten days, at the end of which time it will have accomplished its end, and then had better be removed than not.

Suppuration is not only not intended, but should, as much as it may be in our power, be guarded against.

R A D I C A L C U R E

O F T H E

H Y D R O C E L E,

BY MEANS OF AN INJECTION.

BY

T H E E D I T O R.

H Y D R O C E L E.

THE inconveniences attending the usual methods of treating the hydrocele are well known to those who are engaged in the practice of surgery. The disease itself is attended with little pain and no danger; many of the remedies now in use for it are productive of considerable pain, and are not totally destitute of hazard.

The proper object of all operations for the radical cure of the hydrocele, is, to produce such an adhesion of the distended vaginal coat of the testis with the gland, or such a consolidation of the contiguous parts, as shall annihilate the cavity in which the water constituting this disease is contained. We know that this effect may be produced by a certain degree of inflammation, and are unacquainted with any other process, either natural or artificial, by which it can be brought about. Before the method by the seton was recommended by our author, the

necessary inflammation was excited by dividing the scrotum and the vaginal coat, or by destroying a part of them by the knife or caustic.

Mr. POTT took no small pains to mitigate the severity of this operation, and to raise inflammation in a more simple manner, by the introduction of a foreign body without destruction of parts. With this view he preferred the seton. This he soon discovered to be productive of more inflammation than was necessary; and, after a series of trials, he suggested many very ingenious directions for performing and conducting this operation in such a manner as to produce the least possible irritation. We must allow that he carried the process he recommends to a great degree of perfection; and if the operation be performed without deviating from the directions he has laid down, I am convinced it will be found preferable to any of the methods which have been usually practised in this country; yet it must be observed, that even this remedy goes beyond the proper intention, as the seton not only excites adhesive inflammation, but is necessarily attended with some degree of suppuration, at least

least in the track of it, before it can be removed; add to this, an objection of much more practical consequence; that even in its present state the inflammation produced by the seton sometimes runs much higher than is intended, and demands the attentive administration of antiphlogistic remedies.

The late Mr. ELSE's method, by the application of a small caustic, has the same inconveniences, and is liable to a much greater objection; as it is not only attended with more inflammation than is necessary, but also unnecessarily causes a painful, offensive sore, producing a slough of part, if not the whole, of the tunica vaginalis testis.

The human frame is liable to few diseases which have more frequently exercised the ingenuity of practitioners, to find an easy and effectual cure for them than this. Among the various methods which have been proposed, an external discutient has of late been strongly recommended. It would certainly be a most desirable plan, to get rid of the disease without any operation; but we know too well how confined our powers are in dispersing collections of fluids within sacculi mucofi, and some kinds of encysted tumors,

whose integuments are comparatively thin, and therefore must conceive that much greater power would be requisite to act through the scrotum and thickened tunica vaginalis, so as to produce absorption of the fluid and cohesion of the tunics.

Hydroceles have been accidentally dispersed by various means, particularly by a blow, by a fever, and by sickness at sea. I do not entertain the smallest doubt, that the above remedy, which has been proposed by an ingenious and able practitioner, has produced the same effect; but I cannot help doubting its capability of frequently producing it, having myself tried it, and known it tried by others, several times without success.

The proportional merit, however, of different remedies, can never be exactly determined: few men have opportunities of seeing a variety of remedies repeatedly tried, and perhaps still fewer possess a sufficient share of candor, to weigh the merits and defects of each in an equal balance; consequently medical practice is never settled in any case till it be nearly perfect, or at least till some one proposed remedy bears no comparison, in point of excellence, with the rest. Thus, in
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regard to the treatment of the hydrocele, though the methods of Mr. POTT and Mr. ELSE are certainly great improvements; yet, as some objections may be made to them, there are at this time surgeons who have returned to the old painful practice of incision, and cutting away a part of the scrotum and vaginal coat.

In this unsettled state of practice it will not, I hope, be thought improper to subjoin some observations of my own, on this subject; to those of Mr. POTT; which, however, I should not take the liberty of intruding into this work, had not Mr. POTT himself so far approved of the method which I am going to recommend, as to declare to me, not long before his death, his intention of giving it a fair trial.

It is well known that our forefathers made use of injections for the cure of hydroceles, and this method is now not out of practice on the continent; but it is wonderful that a remedy which may be made to answer the intention of exciting inflammation to any degree, and is attended with no inconvenience, present or future, should have fallen almost into total disuse in this country: some

of the later English writers on the hydrocele do not mention it; and if it be noticed by others, it is only to shew their disapprobation of it.

Injections introduced within the tunica vaginalis testis, into the urethra, or into any cavity of the body, natural or formed by disease, are certainly capable of doing mischief; but the mischief must arise from the nature of the injection; if it be violent and irritating, it may produce too great inflammation. It is very probable that the caustic, and highly stimulating ingredients, which have been sometimes most injudiciously injected, and confined an unreasonable and an unnecessary length of time, have done harm, and have been the cause of bringing injections in general, and for the cure of the hydrocele in particular, into discredit; but it is extremely absurd to infer, from such instances, that all kinds of injection must be pernicious: in the use of them we are not limited to any degree of stimulus. Injections may be found so bland, as not to offend the most sensible membrane or surface in the human body; on the other hand, they may be prepared so corrosive as to inflame, and even to dissolve

the most indolent parts; and they be made to produce any intermediate effect. There is no kind of stimulus which admits of such various modifications.

Another great advantage of injections is, that they apply themselves equally and universally over the whole cavity into which they are thrown, which no solid body can do.

As I had frequently succeeded in procuring an adhesion and consolidation of parts in sinuses and other large cavities, by injections of various kinds, without causing great inflammation, and had by those means avoided the necessity of extensive divisions of the skin and integuments, which should be avoided as much as possible in every part, I conceived that the cure of hydroceles might be effected by the same gentle means, without deranging, more than is necessary, the economy of those tender and sensible organs which are the seat of the disease, and I determined to make the experiment.

The injection I employed for this purpose is wine, which I made choice of for several reasons; it had been used with success in France; I had found it answer well in procuring

curing adhesions in other parts : the strength of wine is never so great as to render it an unsafe remedy, and it may be readily lowered, according to the different sensibility of the parts. Thus a vinous injection appeared capable of producing all the good effects which could be desired, with scarce a possibility of doing harm. The success which has attended it, has more than answered my expectation; and, from every trial I have made, I have no reason to wish for a different one: the pain which is produced by it is incomparably less than by any other operation: it does nothing more than is intended, and the curative effect, as far as my experiments have gone, is equally certain.

The following cases contain a circumstantial account of all the observations I have yet made upon it, which perhaps I have somewhat hastily drawn up, that I might take the opportunity of inserting them in this edition, without any longer delaying its publication.

C A S E I.

A man, about fifty years of age, was taken into St. Bartholomew's hospital with a large hydrocele

hydrocele of many years standing: June 21, 1787, in the presence of Mr. POTT, I passed into it a trochar, and let out a very large quantity of fluid of the usual colour and consistence; I found the tunica vaginalis remarkably thickened and unpliant; to the feel not unlike tripe or buff leather: the testicle was much larger than the natural size. On considering every circumstance, it appeared to be a very unfavourable case for any operation except the palliative: however, as I was desirous to try the effect of injection, and there was no probability of doing mischief, I filled it with port wine diluted with water in which red rose leaves had been boiled. The man felt not the smallest pain: after retaining it a few minutes, I suffered it to be discharged: the next day a small degree of inflammation had taken place; the third day from the operation it was increased, and the whole scrotum considerably swollen: the patient continued absolutely free from pain and fever: by way of precaution, a poultice was applied, and he took an opening draught. On the sixth day the inflammation continued, the scrotum much swollen, the patient without any other complaint.

complaint. In a few days the inflammation lessened, but the scrotum was almost as large as before the operation, and, to all appearance, it now contained a fluid. It seemed extraordinary that water should be again secreted and collected in so very short a time; yet, as it was not attended with any pain or inflammation, I concluded that it was possible; and, being the first attempt which I had made, I was rather inclined to think, with every one who had seen it, that the injection had failed, and that there was a fresh accumulation of water. Accordingly it was agreed that the operation by the seton should be performed. Saturday, July 8th, he was brought into the theatre for that purpose; when, on examination, it appearing to Mr. POTT and all who were present that the size of the tumor was lessened, he was sent back to his ward. From that time the tumor continued gradually to diminish till the testicle was plainly perceptible, surrounded by the thickened tunica vaginalis: July 18, I examined with attention, and found it not only perfectly free from any fresh accumulation of fluid, but the testicle less in size than when I first let out the

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the water, and the patient being well in every respect, I discharged him.

On considering all these circumstances, the reflections which suggested themselves were, that if the method succeeded so well in this case, in which, from the size of the tumor, the duration of it, and the thickness of the vaginal coat, I had despaired of effecting a cure, there was every thing to hope from it in more favorable and more recent ones, and that it appeared infinitely preferable, in every respect, to any other operation I had ever seen attempted for the cure of hydroceles: no pain, no violent irritation, nor fever succeeded; a gentle inflammation only took place, attended with a moderate tumefaction, just sufficient to produce an adhesion of the tunica vaginalis to the testis, without the tedious process of suppuration, which, in some degree, is always the consequence of any other operation.

C A S E II.

THE next case which occurred to me, was in June ~~1777~~† in the person of a gentleman, who shewed me a hydrocele, which
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he said had gradually been increasing during several months; the integuments were remarkably thin, and in every respect it was the reverse of the case just described: he wished to have the radical cure performed, and it appeared a very good subject for an operation. As he was a man of excellent understanding, and had applied his thoughts to surgical cases, and more particularly to this which most materially concerned himself, I described to him all the different operations which have been recommended for the cure of it, and pointed out what appeared to me their advantages and disadvantages, that he might form some judgment, and choose which he would submit to. He decided in favour of injection. After having evacuated about five ounces of yellowish fluid, the testis felt full and larger than natural, but soft; I then threw in some injection, more diluted than in the preceding case; he complained of some pain, on which account, after the injection had continued one minute, I suffered it to be discharged, and the pain soon ceased; when, lest I should not have done quite enough, I attempted to throw in some more, but air had got into the syringe, and I was rather foiled; however some went in, on
which

which he again complained of pain, and I again discharged it, and withdrew the cannula; he continued to feel a small degree of uneasiness, and went to bed; I saw him again in the evening, when he told me the pain had gradually subsided, and that he was then perfectly easy: I ordered a fomentation and poultice to the part, and an opening draught. The next morning, a very gentle inflammation had taken place; the parts were moderately tumefied, and he felt very little uneasiness. The third day, being much the same, he chose to get up; the fourth day, encouraged by ease and favourable accompaniments, he very imprudently exerted himself in moving a heavy table, by which he brought on his pain again, and the scrotum looked larger and more inflamed. This fresh access was fortunately soon calmed, and the parts again gradually subsided; and, though he continued to sit up, in nine days from the operation, the gland bore to be examined as well as a sound testicle. In a few days after, the inflammation was entirely gone; and, what appeared a circumstance very much in favour of this operation, as it is contrary to what happens after, I

believe I may say every other operation for this complaint, the testicle was become perceptibly, to the patient as well as to myself, smaller than when I let out the water. Every one must allow that after operations by which a solid foreign body is suffered to remain within the tunica vaginalis, the testis for a long time remains enlarged, owing to the great and unnecessary quantity of inflammation excited, and to the duration of it. A fluid may undoubtedly be made so powerful, and retained so long, as to produce the same ill effects; I must therefore observe, that the success of the method which I am describing, will probably be found to depend on two circumstances; the mildness of the injection, and the very short space of time which I have proved to be sufficient for its retention.

Finding himself perfectly well, he went to his country-house, where he caught cold, by remaining in his garden after rain, and had a very severe attack of fever; but notwithstanding, the testis continued perfectly quiet and easy. May 20th, in the following year, I had an opportunity of seeing him again; when, on a careful examination of
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the parts, I was convinced that the testis was become of its natural size, that an adhesion had universally taken place between the tunics, and in short, that the cure was undoubtedly complete. I have had many opportunities of seeing him since, and he remains perfectly well.

C A S E III.

1787

NOVEMBER 23, ~~1777~~ a young man shewed me a swelling of the scrotum, of a few months duration, which I perceived to be a hydrocele. After proper evacuations, I determined to attempt the cure by injection; I drew off a large tea-cup of straw-coloured water, and found the testis rather enlarged, as usual, but free from disease; I immediately filled the cavity with injection, which was kept in a couple of minutes; the patient complaining of some pain shooting up to his loins; it was discharged, and he went to bed. The next day I found him free from fever; he said he had felt some pain similar to what he had felt during the operation, but the inflammation was not

more than to be desired; the scrotum gently distended with a scarlet blush. I ordered a poultice and bag-truss, and advised him, what I always recommend, not to suffer the scrotum to fall down between the thighs, but to support it by a small pillow, or by keeping the knees close. The 26th, the inflammation was very moderate; he had no pain, nor had felt any since the second day: it continued gently to increase, and seemed about its height on the 28th, the fifth from the operation: and two days after it appeared to be gradually decreasing; the patient during the whole time being entirely free from pain. December 4, the inflammation was diminished, the tumor about half its original size. On the 10th, the seventeenth from the operation, all inflammation had left it, the adhesion of the membranes appeared complete, and the testis in a perfectly quiet state.

C A S E IV.

ON the same day that I injected the last mentioned hydrocele, another case, exactly similar

similar in every respect, was put under my care; the age of the man nearly equal; constitution, duration and size of his complaint, as nearly resembling the other as possible. To give a fair trial to both methods, I passed a seton in this; the complaint proceeded very well with moderate inflammation. The seton was gradually removed, thread by thread, as they became loose; in about ten days, the scrotum began to lessen and collapse; a small abscess however was formed, the matter of which emptied itself by the lower orifice. On the whole, this case gave as little trouble, and ended as happily as the mode of treating it, by introducing and retaining a foreign body, generally does. But I must most truly confess that it did not seem comparable to the injection, by which means all access to air is denied: no discharge is necessary; the inflammation is infinitely more moderate, the duration of it less, and no abscesses are formed.

C A S E V.

MARCH 12, 1788, in company with my esteemed friend, Mr. PITTS, I let out the water from the hydrocele of an elderly man, which had been tapped about five years before. It appeared large before the operation; but the quantity of water which was evacuated, and which measured considerably more than a pint, proved the cavity to have been more capacious than we had apprehended. The testicle was in a sound state, very little larger than natural: I threw in some injection; the patient felt no pain, and scarcely any extraordinary sensation, which induced me to use the remainder of the injection of a stronger quality, and to keep it in longer than usual. I had not enough to fill the cavity; however, by handling and altering the position of the parts, I caused it to be diffused over the whole cavity; and, as I have observed, I consider it the chief excellence of this method, that we are enabled to irritate and affect every part equally, but moderately. From the capacity of the cavity, and the consequent improbability of the parts lying in contact

contact with each other, after having been so largely distended for such a length of time, I formed a very unfavourable prognostic of the event. I saw him next morning; he said he had perceived a slight pain in the afternoon, for about two hours, since which he had been easy: a small degree of inflammation and tumefaction had taken possession of the part. The 14th (the second day after the operation) they were moderately increased; I began, from the appearances, to have hopes of success, as the inflammation was just as I wished: the 15th, appearances were similar to those of the day before: the 17th, the inflammation continued moderate and unattended with pain: the 20th (the eighth from the operation), the inflammation and tumefaction were less, and continued gradually subsiding: he was soon after discharged well. I have had many opportunities of seeing him since, and he remains perfectly so.

As I have mentioned, in the last case, that I threw up the injection stronger than usual, I will take this opportunity to observe, that I have commonly used about two thirds of wine to one third of water, if the parts ap-

peared insensible, and no pain at all was produced by the first quantity thrown in, I have withdrawn the syringe, and added to the proportion of wine; on the contrary, if the complaint was recent, and the parts irritable, I have increased the proportion of water; so that I have hitherto been principally guided by the degree of sensation which the patient has expressed. I have lately used pure water, and found it answer as well as when astringents were added.

The instrument which I commonly use, is a pipe with a stop cock, which is made to fit into the cannula of a trochar, and to receive the beak of a syringe of a moderate size, which may be applied and removed at pleasure. I have sometimes used the vegetable bottle; but it has this inconvenience, that if it be not perfectly filled with the injection, it will, by its elastic power, draw in a quantity of air, which may prove very embarrassing in the operation.

C A S E VI.

THE next case which came under my care, was a hydrocele in the person of a middle
aged

aged man. Averse to doing more than might be necessary, though I had succeeded so well by injection, an external wash being certainly more easily applicable, I determined to give trial to that which had been recently recommended. May 5, the tumor was wrapped in cloths, wet with a solution of sal amoniac in acet. & spt. vin.; after using it two days he complained so much of inflammation and irritation, attended with darting pains in the scrotum, that I was obliged to omit it for a day or two; after which time he used it lowered with a little water. May 27, after having continued this application nineteen days, I could find no sensible difference in the size or appearance of the tumor, except that the skin was corrugated and inflamed from the irritation of the application. May 30, no sensible alteration; he continued to use it, with now and then a small interval, till the 22d of June, when, tired at finding no benefit, he would not submit to any other operation as was proposed to him, but chose to leave the hospital.

C A S E VII.

AN intelligent gentleman, who had been in the medical line in India, shewed me a hydrocele on each side: we talked over all the usual modes of curing the complaint; but he did not seem satisfied with either of them. I mentioned the solution of the salamon. and recommended him to give it a fair trial. He accordingly applied it, as it is directed; but, as it happened in the instance just mentioned, it produced so much inflammation, that he was obliged to desist: he afterwards used it for near three months, at the end of which period, May 31, 1789, he again shewed me the tumors; but there was no perceptible diminution in their size.

C A S E VIII.

SINCE these papers were written a gentleman was introduced to me by Dr. GRIEVE, with a hydrocele, which had been treated with the same discutient, and which he had found so painful that his surgeon was obliged to lower it: it was continued as strong as he could

could bear it during five weeks, when the water not being lessened, was let out, after which the application was again made use of during the evacuated state of the complaint; but it had not prevented the reaccumulation of the water.

I do not mean, by these relations, to give a decided opinion on this method; I simply and truly state the facts: in other cases it might be more successful.

C A S E IX.

NOVEMBER 5, 1788, I took a young man under my care, who had apparently a hydrocele; but it was one of those cases of which, on account of the tightness, with which the coats enveloped the water; and from the thickness of the scrotum, we could not positively at once determine the nature; however, as I concluded it to be a hydrocele, and, from its recent appearance, a favourable case, I immediately began to treat it with an external application of a solution of sal amon. but, after seventeen days, finding no kind of advantage, and the man being impatient and
anxious

anxious to return to his friends, I determined to use the injection. November 22, I let out about five ounces of clear fluid, found the testis in a good state, though enlarged, which, as I observed, is frequently, I might say generally, the case. I then filled the cavity with injection, in the presence of a number of gentlemen, and kept it in a few minutes; he complained of so little pain, that I was apprehensive, and I believe all who were present concluded, that what I had done was to no purpose; that is, that there would not be sufficient irritation to produce the necessary inflammation. He continued without pain the whole of that day and the next; the third day he was perfectly easy; but a gentle inflammation had taken possession of the whole scrotum, equal in every part: the 5th day the inflammation continued as before, and the swelling was so free from pain, that it had strongly the appearance of a fresh collection of fluid; but, as this deception had several times occurred to me before, I did not the less expect a cure. On the seventh day from the operation the appearances were very similar, the man void of pain, the scrotum gently tumefied, from which time the scro-

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tum began to corrugate, and the tumor gradually to decrease, till in less than three weeks it became of the size of the testicle, when the water was let out. I kept him in the house till the 21st of December, to observe if any fresh accumulation took place, when, being perfectly well, he was discharged.

C A S E X.

MR. PITTS tapped a large hydrocele of a middle aged man; the testicle was found larger and harder than usual: he permitted me to throw in an injection, which, on account of the size and thickness of the parts, I had made rather stronger than usual, there was not quite enough to fill it; but I pressed it so as to make it find its way over the whole cavity, and suffered it to remain in six minutes. I did not see him again till the fifth day; the scrotum was considerably inflamed, and tender to the touch. I directed him to remain in bed, and to apply a poultice made with extr. saturn. the next day the inflammation was lessened, and he was free from pain, and the tumor began to subside. There

is so great similarity in the progress of these cases, that I have only to say the inflammation continued gradually to lessen, and in less than a month the testis was of its natural size, and the man was discharged. He has since been in the hospital for another complaint, and we have had opportunities of examining the part; the adhesion appears to have universally taken place, and consequently there is not the least vestige of the hydrocele.

C A S E XI.

FEBRUARY 7, 1789, I tapped a hydrocele in the person of a young man, let out a moderate size tea-cup of fluid, threw in the same quantity of injection, and kept it in three minutes; the patient complained of some pain shooting toward his back: the 9th, he had no pain; the inflammation very moderate; the 10th, no great alteration, but I observed, what indeed I had often before remarked, that the scrotum appeared distended, as if again filling with water. The inflammation continued to proceed moderately, and gradually

dually to subside. The patient was so free from pain and every complaint, that he chose to leave the house in less than three weeks; and, indeed, before the swelling was quite gone, to follow his occupation of a tide-waiter. I have since had many opportunities of seeing him and examining the part; the adhesion appears perfect, and the disease completely cured.

C A S E XII.

MARCH 6th, 1789, I went with Mr. R. Croft, to see a young man, who had a hydrocele on each side. Mr. C. had once performed the palliative cure on the left, which was now filled again, and was much larger than the other. I let out a large quantity of fluid, and found the testis in a good state, though larger than natural. I introduced sufficient injection to distend the bag, and kept it in four minutes; the man complained of some pain when it was first thrown in, but was perfectly easy before the four minutes were expired. I then proceeded to evacuate the other; but, as the quantity

quantity of water was small, and I could not safely introduce the instrument which I generally use for the purpose of injecting, I contented myself with emptying it by means of a small trochar, and found the testis large in proportion to the size of the tumor; I withdrew the cannula, and left it to take the chance of what might follow from partaking of the neighbouring inflammation which I expected to take place. Mr. C. saw him the next day, and gave me an account that he had risen, and was walking about the room, and that the parts were beginning to swell. As this was greater liberty than I had yet given, I begged he might immediately go to bed and have a poultice applied. I visited him next day, and found more inflammation than I had ever seen after this operation: and, what appeared extraordinary and fortunate, the side which had not been injected was almost as much inflamed as the other; but he complained not of the smallest pain in either. The 14th, I saw him again; he continued free from pain, and the inflammation was very much abated. The side which had not been injected appeared less likely to diminish than the other; and
the

the apparent feel of fluid which I observed often follows, was more than usually perceptible. On the 20th, (a fortnight from the operation) the side on which the injection had been used, was perfectly well; in the other, the water was evidently collecting very fast; which demonstrates how little effect external inflammation may have when it is to act through the scrotum and tunica vaginalis, and points out the greater certainty which follows the application of the stimulus to the inside of the cavity; in this case, notwithstanding the water was evacuated, and a much more considerable inflammation was raised on the scrotum than could have been caused by almost any external application, no internal effect was produced. I took leave of him, recommending him to do nothing farther till it was sufficiently full to be treated in the same manner.

C A S E XIII.

MR. CROFT continued to see him from time to time, and gave me an account that the side which had been injected, remained perfectly well, but that the other was large,

and he wished me to perform the same operation on it. May the 2d, I examined it, and found the left side perfectly well, and free from water; the right distended, but not very large. I plainly, through the water, discovered that the testis was larger than it ought to be; and it was not without great care that I was able to pass in the trocar without injuring it: I let out about five ounces of fluid, and treated it like the other. I saw him two days after; he said he had passed a restless night, and the part was more inflamed and tumefied than usual; on inquiry, I found he had eaten a dinner of roast beef and drank porter, which readily accounted for it. By taking a little opening medicine and using a lower regimen, in two days the tumor was less, the inflammation more moderate. In about the usual time he got well; and, I have been informed, he continues perfectly free from any complaint on either side.

C A S E XIV.

MAY 16, 1789, I let out about five ounces of a straw-coloured fluid from the hydrocele
of

of a young man, and threw in an injection; he complained of pain during the first three minutes, when he grew easy; in five minutes the injection was discharged. This proceeded, in every respect, like those I have related, with a very moderate inflammation, which decreased gradually.

He has since applied to me, with a venereal swelling in both his testes; which, by means of mercurial frictions in the internal parts of his thighs, are both decreasing, but there is not the smallest sign of his ever having had water in either.

C A S E XV.

IN the autumn of the same year, a gentleman came from Barbadoes on purpose to be cured of a large hydrocele. With his consent, I intended to use the method by injection; but, at the instant when I had passed in the trocar, with a violent involuntary motion of his body, he forced it out with the cannula, by which accident a small quantity of water only followed through the external orifice, but a considerable portion escaped

from the tunica vaginalis, and insinuated itself into the cellular membrane of the scrotum, making a large swelling, which put a total stop to the intended operation. As his time was limited, and he was anxious to return, he pressed me to perform immediately the operation by incision, or by any other method; however I persuaded him to wait a fortnight, by which time the extravasated fluid was nearly absorbed; but, as the quantity which remained in the tunica vaginalis was small, and consequently the cavity was become less capacious; and as he was so particularly circumstanced with regard to leaving this country, I did not chuse to try the injection, but there being just sufficient room for the instrument to pass safely, I performed the operation by the seton.

This case terminated well, and the gentleman is returned perfectly cured, but it was attended in its progress with an abscess, the consequence of a much greater degree of inflammation than I have ever experienced from the use of injection, and indeed abundantly more than was necessary for the cure.

The accident by which the instrument was forced out, may serve as a caution, and
point

point out the propriety of placing the patient against a table, or upon a couch, or in any situation in which it will not be in his power to recede.

C A S E XVI.

ABOUT the same time I injected the hydrocele of an Irish gentleman, aged 30: he felt little pain while the injection was in; the next day, the inflammation was moderate, and proceeded in a gentle manner, with scarcely any variation from most of those cases in which I had used injection, and whose progress I have described; it is therefore unnecessary to take up more of the reader's time in particularizing the symptoms.

It is probable, that this method, like others, may sometimes prove defective; but I can truly assert, that it has not yet failed in any case in which I have tried it; further experiments will give the standard of its value: however there is one merit which I may venture to say it possesses, superior to any other; that the inflammation which is

excited, is so gentle, if it should not succeed, it can do no harm; and if a fresh accumulation of fluid should take place, we are not prevented from another trial by injection, by the seton, by the caustic, or by any other method which may be recommended, equally, and to all intents and purposes, as if nothing had been attempted.

I have only to remark, that though in the course of these observations I have spoken of the adhesion between the tunics, as an established fact, no opportunity has occurred to me of examining, by dissection, the testes which have been thus cured; I do not, therefore, conceive the adhesion to be, as yet, fully ascertained, though extremely probable: it would be satisfactory to determine this point, though the utility of the remedy does not in the least depend on it, and appears to be sufficiently proved by the above cases; for whether the absorbing powers are only stimulated to act so as to reduce the abundant secretion to its natural quantity, or whether an actual adhesion takes place, the cure of the complaint is equally effected.

In the foregoing CASES II. and III. (on p. 47 and 51) for 1777 should be read 1787.

THE correction of this error of the press gives me an opportunity to observe that since these sheets were printed I have used the injection in other cases; but as their progress, and the success which has attended them, as far as the time of probation permits us to judge, were in every respect similar to those which I have related, I shall not enter into a detail of them; only I will remark, that having used it February 26 on the gentleman mentioned in CASE VIII, the inflammation which was produced was so moderate that he would not submit to be confined, but in two or three days after the operation, notwithstanding the testis was evidently inflamed and larger than natural, went out and took his usual exercise. This brought on so much swelling as made

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him content to stay at home a fortnight, during which time it increased in size and gradually lessened, but at no time was at all painful, unless it was handled. Though, from the little attention paid to it at first, the tumefaction in this case had been rather obstinate, it was, March 18th, so nearly subsided, that he went out of town, with every appearance of the accomplishment of a perfect cure. I may now add, April 9th, that I have seen him since his return, and there is no appearance of his ever having had a hydrocele.

A

T R E A T I S E

ON THE

F I S T U L A I N A N O.

P R E F A C E.

IT has been said, that when a man thinks that he can, by publishing his opinion, derive any benefit to his fellow-creatures, he has no reason to be anxious about making an apology for such publication.

This, within a certain limitation, is true ; but, taken in its full extent, may be urged as an excuse for obtruding that on the world which may not be worth its acceptance.

Possibly the following sheets may be thought to come within that predicament.

The only defence I have to make for them is, that from the most diligent and most frequent inquiry into the general method of treating the disease in question, I am convinced, that such method may be considerably improved ; that is, may be rendered less painful, more expeditious, and more successful.

I should be very sorry to have it thought, that I meant, by this, to signify, that my opinion on this subject is different from that of all my brethren : I know it is not ; I know that there are some gentlemen of the profession who think of it as I do : but I also know, that a very different doctrine is inculcated, and a very different method followed, by the majority of writers, practitioners, and teachers.

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The number of those who have had frequent opportunities of seeing this kind of disease, is not large, compared to that of those who are daily liable to be called to the care of it: the number of those who reflect on what they see or read, and who take the liberty of thinking for themselves, is still smaller; so that the precepts delivered by such as have obtained any degree of reputation, do almost necessarily become rules of practice to the multitude.

I have, on this occasion, carefully perused almost every writer of character on the subject; and think, that I may venture to say, that they are all either defective, or erroneous: they either pass the disease over slightly, and without that regard which it certainly requires and deserves; or subject it to a method of cure, which is operose, painful, tedious, and unnecessarily productive of future evil.

The term Cutting for a Fistula, conveys to a patient a terrible idea; and this terror is not a little increased by his incapacity of seeing the part diseased. The majority of writers have greatly increased, rather than lessened, this dread: and as the operation is (under their directions) sometimes performed, it is, indeed, a very severe one: a great part of this severity appears to me to be unnecessary; and I cannot help thinking, that a more serious reflection on the parts concerned in the disease, and on its different nature in different states and circumstances, would lead us to a more rational method of treating it, and to a more easy and expeditious cure.

To

To point such method out is the intention of the following Tract.

In the execution of it, I have sometimes found myself under a necessity of controverting the opinion of some gentlemen of deserved eminence : if I have done this with decency and good manners, no apology is necessary. The honour of our art, and the moral characters of its professors suffer, whenever we pay so blind deference to any one, as prevents us from using our own judgments, and from declaring freely the results of our inquiries or experiments. Truth, as Lord Bacon has said, is not the child of authority, but of time. And were we to allow ourselves to suppose, (let the subject be what it may, provided it be liable to experiment) that nothing more, or new, could be taught, it is pretty clear, that nothing more or new would be learned.

I therefore hope, that the freedom which I have used, either in relating the opinions, or in objecting to the practice of others, will not be attributed to an invidious disposition to find fault ; but merely to a desire of being serviceable to mankind in that way, in which, I flatter myself, that I may be in some degree capable ; and of improving, as much as in me lies, the very necessary, and universally useful Science of SURGERY.

FISTULA IN ANO.

S E C T. I.

CLEAR and precise definitions of diseases, and the application of such names to them as are expressive of their true and real nature, are of more consequence than they are generally imagined to be: untrue or imperfect ones occasion false ideas; and false ideas are generally followed by erroneous practice.

It would be no difficult matter to produce instances of disorders, whose treatment has, for a great length of time, been accommodated more to the titles imposed upon them, than to their true and real character: among these my present subject is a most glaring proof.

The custom of giving the appellation of Fistula to every impostumation, and to every collection of matter formed near to the anus, has, by conveying a false notion of them,
been

been productive of such methods of treating them, as (though, perhaps, suited to such idea) are diametrically opposite to those which ought to be pursued: such as have often rendered those cases tedious and painful, which might have been cured easily and expeditiously: and consequently such as have brought disgrace on our art, and unnecessary trouble on mankind.

A small orifice or outlet from a large or deep cavity, discharging a thin gleet, or sanies, made a considerable part of the idea, which our ancestors had of a fistulous sore, wherever seated. With the term fistulous, they always connected a notion of callosity: and, therefore, whenever they found such a kind of opening yielding such sort of discharge, and attended with any degree of induration, they called the complaint a Fistula. Imagining this callosity to be a diseased alteration made in the very structure of the parts, they had no conception that it could be cured by any means, but by removal with a cutting instrument, or by destruction with escharotics: and, therefore, they immediately attacked it with knife or caustic, in order to accomplish one of these ends: and very terrible

ble work (by their own accounts) they often made, before they did accomplish it.

Several of the above-mentioned circumstances do frequently attend collections of matter near to the rectum; and therefore for want of proper attention to the true nature of the case, the custom of calling them all *Fistulæ* has generally prevailed, though without any foundation in truth or nature.

That abscesses, formed near the fundament, do sometimes, from bad habits, from extreme neglect, or from gross mistreatment, become fistulous, is certain; but the majority of them have not, at first, any one character or mark of a true fistula; nor can, without the most supine neglect on the side of the patient, or the most ignorant mismanagement on the part of the surgeon, degenerate, or be converted into one.

Collections of matter from inflammation (wherever formed) if they be not opened in time, and in a proper manner, do often burst. The hole, through which the matter finds vent, is generally small, and not often situated in the most convenient, or most dependent, part of the tumor; it therefore

is unfit for the discharge of all the contents of the abscess; and, instead of closing, contracts itself to a smaller size, and becoming hard at its edges continues to drain off what is furnished by the undigested sides of the cavity.

This is often the case in the most muscular, or fleshy parts of the body, where the cellular and adipose membrane does not abound; but is more particularly so in the neighbourhood of the anus, where that membrane is large in quantity, well stocked with fat, and not compressed by the action of any large or strong muscles.

Why critical defluxions and abscesses are frequently formed in this part, is so obvious to every one, who considers its natural structure, that it must be quite unnecessary to enter into an explanation of it: I shall therefore only observe, that when it becomes the seat of such kind of defluxion, it can make little or no resistance; but immediately swells, and becomes hard to a considerable extent: and although impostumation is very frequently the consequence, yet the induration extending itself a good way beyond the bounds of the abscess, the first suppuration is

by no means equal to the dissolution of such hardness; especially, if instead of being opened properly, the skin has been suffered to burst.

The smallness of this accidental orifice; the hardness of its edges; its being found to be the outlet from a deep cavity; the daily discharge of a thin, gleety, discoloured kind of matter; and the induration of the parts round about, have all contributed to raise and confirm the idea of a true fistula.

To this idea, the general treatment of these cases has therefore been made to accord: upon this, has been built the prevailing doctrine of free excision, or as free destruction, without any regard to the original production of the complaint, its particular seat, its date, or any other attendant circumstances; and without examining, whether it would not admit a more easy and a more expeditious method of cure. In short, this notion, that all sinuses near the rectum are necessarily fistulous, has occasioned the prescription of such a manner of treating them, from their very first appearance, as they can hardly ever stand in need of at any time; and a mere ill-founded supposition, that the induration of the parts

about may be owing to a diseased callosity, is urged as a reason for using them with more severity than even such state would require.

S E C T. II.

WHOEVER would obtain a true notion of the disease in question, must consider it under all the forms in which it makes its appearance. These, which are many and various, (both with regard to aspect, situation, and symptoms) are what shew the different nature of the complaint in different states, and are the circumstances which ought to regulate a surgeon's conduct in the care of it.

Sometimes the attack is made with symptoms of high inflammation; with pain, fever, rigor, &c. and the abscess proves truly critical; that is, it becomes a solution of the fever.

In this case, a part of the buttock near to the anus is considerably swollen, and has a large circumscribed hardness. In a short time,

the middle of this hardness becomes red, and inflamed; and in the center of it matter is formed.

This (in the language of our ancestors) is called in general a Phlegmon; but when it appears in this particular part, a Phyma.

The pain is sometimes great, the fever high, the tumor large, and exquisitely tender: but however disagreeable the appearances may have been, or however high the symptoms may have risen, before suppuration, yet, when that end is fairly and fully accomplished, the patient generally becomes easy and cool; and the matter formed under such circumstances, though it may be plentiful, yet is good.

On the other hand, the external parts, after much pain, attended with fever, sickness, &c. are sometimes attacked with considerable inflammation, but without any of that circumscribed hardness, which characterised the preceding tumor; instead of which, the inflammation is extended largely and the skin wears an erysipelatous kind of an appearance. In this the disease is more superficial; the quantity of matter small, and the

cellular membrane sloughy to a considerable extent.

Sometimes, instead of either of the preceding appearances, there is formed in this part, what the French call *une suppuration gangreneuse*; in which the cellular and adipose membrane is affected in the same manner, as it is in the disease called a Carbuncle.

In this case, the skin is of a dusky red or purple kind of colour; and although harder than when in a natural state, yet it has, by no means, that degree of tension or resistance, which it has either in the phlegmon, or in the erysipelas.

The patient has generally, at first, a hard, full, jarring pulse, with great thirst, and very fatiguing restlessness. If the progress of the disease be not stopped, or the patient relieved by medicine, the pulse soon changes into an unequal, low, faltering one; and the strength and the spirits sink in such manner, as to imply great and immediately-impending mischief. The matter formed under the skin, so altered, is small in quantity, and bad in quality; and the adipose membrane is gangrenous and sloughy throughout the extent
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of the discolouration. This generally happens to persons, whose habit is either naturally bad, or rendered so by intemperance.

In each of these different affections, the whole malady is often confined to the skin and cellular membrane underneath it ; and no other symptoms attend, than the usual general ones, or such as arise from the formation of matter or floughs in the part immediately affected. But it also often happens, that, added to these, the patient is made unhappy by complaints arising from an influence, which such mischief has on parts in the neighbourhood of the disease; such as the urinary bladder, the vagina, the urethra, the hæmorrhoidal vessels, and the rectum ; producing retention of urine, stranguy, dysury, bearing down, tenesmus, piles, diarrhoea, or obstinate costiveness: which complaints are sometimes so pressing, as to claim all our attention. On the other hand, large quantities of matter, and deep floughs are sometimes formed, and great devastation committed on the parts about the rectum, with little or no previous pain, tumor, or inflammation.

Sometimes the disease makes its first appearance

pearance in an induration of the skin, near to the verge of the anus, but without pain or alteration of colour; which hardness gradually softens and suppurates. The matter, when let out, in this case, is small in quantity, good in quality; and the sore is superficial, clean, and well-conditioned. On the contrary, it now and then happens, that although the pain is but little, and the inflammation apparently slight, yet the matter is large in quantity, bad in quality, extremely offensive, and proceeds from a deep crude hollow, which bears an ill-natured aspect.

The place also where the abscess points, and where the matter, if let alone, would burst its way out, is various and uncertain. Sometimes it is in the buttock, at a distance from the anus; at other times near its verge, or in the perineum: and this discharge is made sometimes from one orifice only, sometimes from several. In some cases, there is not only an opening through the skin ^externally, but another through the intestine into its cavity: in others, there is only one orifice, and that either external, or internal,

Sometimes

Sometimes the matter is formed at a considerable distance from the rectum, which is not even laid bare by it; at others, it is laid bare only, and not perforated: it is also sometimes not only denuded, but pierced; and that in more places than one. The original seat of the mischief is, in some cases, high up in the pelvis, near the lower vertebræ of the loins, and the os sacrum; and the matter comes from parts so diseased, and so out of reach, that the case is hopeless from the first. These discharges are to some persons salutary, and prove solutions of general diseases, which have long infested the habit: to others, they often prove fatal, by exhausting the small remains of strength. If the disease has its foundation in the lues venerea (which is not a very uncommon case) it frequently communicates with the urethra, and neck of the bladder, producing great disturbance and misery to the patient. And sometimes it happens, that fistulous openings, near the anus, give discharge to a sanies, proceeding from a cancerous state of some of the parts within the pelvis.

Whoever attends to this variety of states

and circumstances, must be convinced, that no one particular method can suit them all; but that in this, as in many other cases, the surgeon's conduct must be varied occasionally, and adapted to the exigencies of each individual.

S E C T. III.

It very seldom happens, when inflammatory defluxions are made on the cellular membrane surrounding the intestine rectum, that it is in our power to prevent the formation of matter; nor, if it was, would it often be right so to do; as these abscesses seldom happen to any body, to whom they are not, at least, a temporary relief.

All consideration, therefore, of that kind is generally out of the question: and our business, if called to it at the beginning, must be to moderate the symptoms; to forward the suppuration; when the matter is formed, to let it out; and to treat the sore in such a manner, as shall be

be most likely to produce a speedy and lasting cure.

When there are no symptoms which require particular attention, and all that we have to do is to assist the maturation of the tumor, a soft poultice is the best application. When the disease is fairly of the phlegmonoid kind, the thinner the skin is suffered to become, before the abscess be opened, the better; as the induration of the parts about will thereby be the more dissolved, and, consequently, there will be the less to do after such opening has been made. This kind of tumor is generally found in people of full, sanguine habits; and who, therefore, if the pain be great, and the fever high, will bear evacuation, both by phlebotomy, and gentle cathartics: which is not often the case of those, who are said to be of bilious constitutions; in whom the inflammation is of larger extent, and in which the skin wears the yellowish tint of the erysipelas; persons of such kind of habit, and in such circumstances, being in general seldom capable of bearing large evacuation.

The observation is general, with regard
to

to erysipelatous inflammations in any part of the body, and is by no means confined to this.

I may, possibly, be censured, for stepping out of my way to mention it; but it is a truth of so much importance to many, and I have seen such melancholy instances from its being not known, or not attended to, that my intention must plead my excuse.

This kind of inflammation (I mean the erysipelatous) generally makes its attack with nausea, vomiting, slight rigor, heat, thirst, and restlessness.

The quickness of pulse, and heat of skin, are indications for some degree of evacuation, and indeed sometimes render it requisite; but it is a very prevailing opinion with many practitioners, that these evacuations should be freely made, and frequently repeated: in short, that the cure of this kind of inflammation is safely to be effected by them; which is so far from being true, that the practice has proved fatal to many. If, for instance, blood be drawn off in such quantity as that the patient's pulse sinks suddenly, or if his strength be considerably reduced by purging, it is no
very

very uncommon thing for the inflammation to leave the part first affected, and for such complaints to come on immediately, as soon prove destructive, and afford no opportunity to repair the mischief which the evacuation has produced.

When the inflammation is of this kind, the quantity of matter formed is small, compared to the size and extent of the tumor; the disease is rather a sloughy, putrid state of the cellular membrane, than an impostumation; and therefore, the sooner it is opened, the better: if we wait for the matter to make a point, we shall wait for what will not happen; at least not till after a considerable length of time: during which, the disease in the membrane will extend itself, and, consequently, the cavity of the sinus, or abscess, be thereby greatly increased.

When, instead of either of the preceding appearances, the skin wears a dusky, purplish-red colour; has a doughy, unresisting kind of feel, and is very little sensible: when these circumstances are joined with an unequal, faltering kind of pulse, irregular shiverings, a great failure of strength
and

and spirits, and inclination to dose, the case is formidable, and the event generally fatal.

The habit, in these circumstances, is always bad; sometimes from nature, but much more frequently from gluttony and intemperance. What assistance art can lend, must be administered speedily; every minute is of consequence; and if the disease be not stopped, the patient will sink. Here is no need for evacuation of any kind: recourse must be immediately had to medical assistance; the part affected should be frequently fomented with hot spirituous fomentations; large and deep incision should be made into the diseased part; and the applications made to it should be of the warmest, most antiseptic kind.

This also is a general kind of observation, and equally applicable to the same sort of disease in any part of the body. Our ancestors have thought fit to call it in some a Carbuncle, and in others by other names; but it is (wherever seated) really and truly, a gangrene of the cellular and adipose membrane; it always implies great degeneracy of habit, and, most commonly, ends ill.

Strangury,

Strangury, dysury, and even total retention of urine, are no very uncommon attendants upon abscesses forming in the neighbourhood of the rectum and bladder; more especially, if the seat of them be near the neck of the latter.

They sometimes continue from the first attack of the inflammation, until the matter is formed, and has made its way outward; and sometimes last a few hours only.

The two former most commonly are easily relieved by the loss of blood, and the use of gum arabic, with nitre, &c. But the last (the total retention) is, (while it continues) both fatiguing and alarming.—They who have not often seen this case, generally have immediate recourse to the catheter; and for this they plead the authority of precept: but the practice is so essentially wrong, and I have seen such terrible consequences from it, that I cannot help entering my protest against it.

The neck of the bladder, from its vicinity to the parts where the inflammation is seated, and from its being involved in the same common membrane, does certainly participate, in some degree, of the
said

said inflammation. This will, in some measure, account for the complaint; but whoever considers the extremely irritable state of the parts composing that part of the urethra, (if I may be allowed so to call it) and will, at the same time, reflect on the amazing and well-known effects of irritation, will be convinced that the principal part of this complaint arises from that cause; and that the disease is, strictly speaking, spasmodic. The manner in which an attack of this kind is generally made; the very little distention which the bladder often suffers; the small quantity of urine sometimes contained in it, even when the symptoms are most pressing; and the most certain, as well as safe, method of relieving it; all tend to strengthen such opinion^a.

But whether we attribute the evil to inflammation, or to spasmodic irritation, what-

^a Great and acute as the pain is in the neck of the bladder, and about the pubes, in a retention of urine, it is not greater, nor more acute, than is sometimes felt in the same parts by those in whose bladder no urine is to be found, and in whom the catheter may be passed with very little trouble or resistance. This complaint, which I have more than two or three times seen, is truly spasmodic; and, accordingly, always gives way to opium, more especially if used in the form of glyster.

ever can, in any degree, contribute to the exasperation of either, must be palpably and manifestly wrong. The violent passage of the catheter through the neck of the bladder (for violent in such circumstances it must be) can never be right. I will not say that it never succeeds; but I will say, that it can hardly ever be proper to make the attempt.

If the instrument be successfully introduced, it must either be withdrawn as soon as the bladder is emptied, or it must be left in it: if the former be done, the same cause of retention remaining, the same effect returns; the same pain and violence must again be submitted to, under (most likely) increased difficulties. On the other hand, if the catheter be left in the bladder, it will often, while its neck is in this state, occasion such disturbance, that the remedy (as it is called) will prove an exasperation of the disease, and add to the evil it is designed to alleviate: nor is this all; for the resistance which the parts, while in this state, make, is sometimes so great, that if any violence be used, the instrument will make for itself a new rout in the neighbouring parts, and lay the foundation of such mischief as frequently baffles all our art.

art.—An accident, which I have known happen to those whose judgment and dexterity have never been doubted.

The true, safe, and rational method of relieving this complaint is by evacuation and anodyne relaxation: this not only procures immediate ease, but does, at the same time, serve another very material purpose; which is that of maturing the abscess. Loss of blood is necessary; the quantity to be determined by the strength and state of the patient: the intestines should also be emptied, if there be time for so doing, by a gentle cathartic; but the most effectual relief will be from the warm bath, or semicupium, the application of bladders with hot water, to the pubes and perineum, and, above all other remedies, the injection of glysters, consisting of warm water, oil, and opium. There may have been cases which have resisted and baffled this method of treatment; but I have never met with them.

On the other hand, I have seen so great and permanent mischief from the premature use of the catheter, that it would have been better for the patient to have sunk under the first evil, than to have lived to experience that

variety of misery, to which all they are subject who are afflicted with a diseased or injured neck of the bladder.

A painful tenesmus is no uncommon attendant upon an inflammatory defluxion on the parts about the rectum. The frequent use of the muscles, whose office it is to expel from the gut whatever is troublesome to it, and by whose action, the parts which make the seat of the disease must be continually compressed, make this, while it lasts, a very disagreeable complaint.

If a dose of rhubarb, joined with a warm anodyne, such as the conf. mithrid. or such like does not remove it, the injection of thin starch and opium, or tinct. thebaic. is almost infallible.

The bearing down, as it is called, in females, as it proceeds, in this case, from the same kind of cause (viz. irritation) admits relief from the same means as the tenesmus.

In some habits, an obstinate costiveness attends this kind of inflammation, accompanied, not unfrequently, with a painful distention and enlargement of the hæmorrhoidal vessels, both internally and externally. While a quantity of hard fæces are detained within

the large intestines, the whole habit must be disordered; and the symptomatic fever, which necessarily accompanies the formation of matter, must be considerably heightened. And while the vessels surrounding the rectum (which are large and numerous) are distended, all the ills proceeding from pressure, inflammation, and irritation, must be increased. This is too obvious to need any explanation: and it must be as obvious, that phlebotomy, laxative glysters, and a low, cool regimen, must be the remedies; while a soft cataplasm applied externally serves to relax and mollify the swollen, indurated piles, at the same time that it hastens the suppuration.

These are, I think, the most material of the complaints which attend inflammatory defluctions and formations of matter about the anus and rectum. They are indeed most of them symptomatic, or accessory to the original disease; but they are frequently of such immediate consequence to the ease, and sometimes even to the safety of the person afflicted, that they require all our attention. Whoever neglects or mistreats them, will cause his patient to suffer a great deal of unnecessary

necessary pain, fatigue, and even hazard: whoever attends to, and treats them properly, will find that by relieving and appeasing these accidental ills, he will assist the cure of the principal complaint, and gain time, instead of losing it.

S E C T. IV.

LET us now consider this disease, when the first symptoms attending the inflammation are gone off, and matter is either formed and collected, in such manner as to be fit for a surgeon to give discharge to it: or (that opportunity having been avoided or neglected,) it has burst through the parts containing it, and has made its own way out.

The different states and circumstances produced either by the collection of this matter, or by the manner in which it has made its escape, will necessarily occasion a difference in the manner of treating the case; and may, for method-sake, as well as for the more perfectly understanding the true nature

of the disease, be reduced to two general heads, viz.

1. Those, in which the intestine is not at all interested; and,
2. Those in which it is either laid bare, or perforated.

Let us first suppose the matter to be fairly formed; to have made its point, as it is called; and to be fit to be let out.

Where such point is, that is, where the skin is most thin, and the fluctuation most palpable, there the opening most certainly ought to be made.

Some of our predecessors, either from a fear which almost necessarily accompanies the want of anatomical knowledge, or from an awkwardness attending the use of a cutting instrument, adopted the method of opening these (as well as most other abscesses) by caustic.

With all due deference to authority, I will venture to say, that it is in general wrong; and particularly so in the present case.

It often gives unnecessary pain; and it produces a loss of substance, and a kind of cicatrix,

cicatrix, which is not only unseemly, but frequently proves a lasting inconvenience.

Some of the patrons of potential fire do, indeed, give a specious kind of reason for its use; viz. that it makes a more large and free opening for the discharge; and that, by the time the eschar is separated, the hollow underneath is generally more than half filled up.

In a few (very few) particular cases, where the destruction of glandular parts may become necessary, after the eschar is thrown off, (as in the case of venereal bubos) there may be some force in this argument, and caustics may be found useful; but in the present case, and in most others, in which they are freely and frequently applied, they appear to me to be highly improper; as they necessarily occasion a loss of parts, and a kind of eschar, which is, in general, an indelible blemish, to say no worse. And with regard to the particular circumstance of the hollow being filled almost up, by the time the eschar is separated, if the surgeon will dress an abscess, opened by incision, in the same easy, superficial manner he does one opened by caustic, he will find the con-

sequence to be the same. But, I know not why, a notion has long prevailed, that an abscess opened by a knife must be immediately crammed and stuffed with dressings, while that on which a caustic has been applied must be let alone until the eschar casts off. Let the one be treated as the other is, (and as they both ought to be) and the event will be found to be alike in each: excepting this material difference in favour of the knife, that it will not necessarily occasion any destruction of parts, loss of substance, nor any deformity which is at all comparable with what must follow the use of the caustic.

In making the opening, the knife or lancet should be passed in deep enough to reach the fluid; and, when it is in, the incision should be continued upward and downward^a, in such manner as to divide all the skin covering the matter. By these means, the contents of the abscess will be discharged at

^a When I say upward and downward, I suppose the patient to stand on his feet, with his legs and thighs straight, and his body leaning forward over a table, or a bed; which posture gives the fairest view of the parts; and puts them into the best position for the operation, as well as for the operator.

once;

once; future lodgment of matter will be prevented; convenient room will be made for the application of proper dressings; and there will be no necessity for making the incision in different directions, or for removing any part of the skin composing the verge of the anus.

Notwithstanding that all these collections of matter are generally called by the name of *Fistulæ*, and are all supposed to affect the *intestinum rectum*, yet it is very certain that the seat of the abscess, (the place where the matter is formed) is sometimes at such distance from the gut, that it is not at all interested by it; and that none of these cases either are, or can be originally *fistulæ*.

In this state of the disease, we have no more necessarily to do with the intestine, than if it was not there; the case is to be considered merely as an abscess in the cellular membrane, which will require (in the usual phrase) to be digested, incarnated, and (if practicable) healed, without meddling with the rectum in any manner.

As this is a matter of some importance to the patient, it is worth a little consideration.

Suppose an abscess formed in the neighbourhood of the rectum, which, after a certain degree of swelling and inflammation, ripens, or comes to a point, somewhere near to the verge of the anus. Suppose also a large and convenient opening to have been made by a simple incision; the contents of the abscess to have been thereby discharged; and a fore or cavity produced, which is, perhaps, considerable in size: this cavity is to be filled up in such manner, as to produce a firm and lasting cure.

The frequent use of the term filling up, and the general-received opinion, that the induration of the parts about is a diseased callosity, appear to me to have been the two principal sources of error and misconduct in these cases.

Wherever matter is formed in consequence of inflammation, it always leaves, upon being let out, a proportional hollow, and some degree of induration. The former of these is of different size, according to the quantity of matter; and the latter depends both on the degree of previous inflammation and the more or less perfect suppuration of the abscess.

The

The generally-received opinion, with regard to these two circumstances (hollow and hardness) is, that the former is caused entirely by loss of substance: and the latter (as I have already observed) by diseased alteration in the structure of the parts.

The consequence of which opinion is, that as soon as the matter is discharged, the cavity is filled and distended, in order to procure a gradual regeneration of flesh, and the dressings, with which it is so filled, are most commonly of the escharotic kind, intended for the dissolution of hardness.

The practice is a necessary consequence of the theory. Whoever supposes diseased callosity, and great loss of substance, will necessarily think himself obliged to destroy the former, and to prevent the cavity, formed by the latter, from filling up too hastily. On the other hand, he who considers this matter as it really is; that is, he who regards the cavity of the abscess as being principally the effect of the gradual distraction and separation of its sides, with very little loss of substance, compared with the size of the said cavity; and who looks upon the induration round about, as nothing more than a
3 circumstance

circumstance which necessarily accompanies every inflammation in membranous parts, more especially in those which tend to suppuration; will, upon the smallest reflection, perceive, that the dressings applied to such cavity ought to be so small in quantity, as to permit nature to accomplish that end which she always aims at as soon as the matter is let out, (I mean, the approach of the sides of the cavity toward each other) and that such small quantity of dressings ought to consist of materials proper only to encourage easy and gradual suppuration.

This is a fact so obvious to common sense, that it must appear to every one who will coolly and impartially consider it.

What is the part in which the disease is seated? and what are the alterations which such disease produces? The part is mere cellular membrane; and the alteration is obstruction and inflammation, ending in the formation of matter. But do these create any new body? do not the sides of the abscess still remain cellular and adipose membrane, only inflamed, thickened, hardened, and rendered purulent? can such alteration require anything more toward restoring the parts to a
natural

natural state, than a free suppuration from the parts so altered; or can it make extirpation or destruction necessary? Most certainly it cannot. How then is suppuration to be produced and maintained? Not by thrusting in such applications, as by their quantity distend, and by their quality irritate and destroy; but by dressing lightly and easily with such as appease, relax and soften.

The fact is capable of experiment; and every man who will make it, that is, who will try the different methods, and attend to the consequences, must be able to determine it; unless blinded by prejudice, or influenced by a worse motive.

A moment's attention to the conduct of nature, when left to herself, and not interrupted by art, will, perhaps, set this matter in a clearer light.

When an abscess of this kind is opened by a surgeon, the cavity is found proportioned to the contents; and, consequently, if the quantity of matter be large, the hollow is considerable. If this hollow be immediately filled with dressings (of any kind,) the sides of it will be kept from approaching toward each other, or may even be farther separated.

separated. But if this cavity be not filled, or have little or no dressings of any kind introduced into it, the sides immediately collapse; and coming nearer and nearer, do, in a very short space of time, convert a large hollow into a small sinus. And this is also constantly the case, when the matter, instead of being let out by an artificial opening, escapes through one made by the bursting of the containing parts.

It is indeed true, that this sinus will not always, (and particularly in the disease I am now speaking of) become perfectly close, and heal; but the aim and conduct of nature is not, therefore, the less evident; nor the hint, which art ought to borrow from her, the less palpable..

In this, as in most other cases, where there are large sores, or considerable cavities, a great deal will depend on the patient's habit, and the care that is taken of it: if that be good, or if it be properly corrected, the surgeon will have very little trouble in his choice of dressings; all that he will have to do will be, to take care that they do not offend either in quantity or quality: but if the habit be bad, or injudiciously treated, he
may

may use the whole farrago of externals, and only waste his own and his patient's time.

In short, all these cases are, at first, mere abscesses; the consequences of inflammation, and require no other treatment than what would be proper in the same kind of case in all other parts. Some few of them are so circumstanced, with regard to the intestine, that it is quite unnecessary to meddle with it at all: but whether that be the case, or not; whether the division of the rectum become a necessary part in the cure, or not; they, most certainly, do not deserve the name of fistulæ, nor require that sort of treatment which fistulæ are said and thought to stand in need of: though by being, from their very first appearance, supposed to be such, they are frequently, by mismanagement, rendered truly fistulous.

By this, (that is, by light, easy treatment) large abscesses formed in the neighbourhood of the rectum will sometimes be cured, without any necessity occurring of meddling with the said gut. But it much more frequently happens, that the intestine, although it may not have been pierced or eroded by the matter, has yet been so stript or denuded, that

no

no consolidation of the sinus can be obtained, but by a division; that is, by laying the two cavities, viz. that of the abscess and that of the intestine, into one.

The necessity of doing this, may, in many cases, be known by the surgeon at first; that is, when he opens the abscess he may find the intestine so bare, and in such state, as plainly to prove that he will not be able to effect a cure without the operation: in other instances, he may have reason at first to flatter himself with success, and be disappointed.

When the former is the case; when the gut is found to be in such state, that there is no reason to expect a cure, without its being divided; that operation had better (on many accounts) be performed at the time the abscess is first opened, than be deferred to a future one. For if it be done in the manner in which, I will venture to say, that it always may, it will add so little to the pain which the patient must feel by opening the abscess, that he will seldom be able to distinguish the one from the other, either with regard to time or sensation: whereas, if it be deferred, he must either
be

be in continual expectation of a second cutting, or feel one at a time when he does not expect it.

The intention in this operation is to divide the intestine rectum from the verge of the anus up as high as the top of the hollow in which the matter was formed; thereby to lay the two cavities of the gut and abscess into one; and by means of an open, instead of a hollow or sinuous sore, to obtain a firm and lasting cure.

Ingenious, mechanical, and whimsical people ^b have often busied themselves in inventing instruments for this purpose: the syringotomy, the cultellus falcatus, the probe-razor, &c. have all at times been in use; scissors also of various kinds, both straight and crooked, have been employed in this operation; the three first may be made to serve the purpose very well; but to the last, (the scissors) there is in this, as well as in almost every operation in which they are frequently used, a palpable objection, viz.

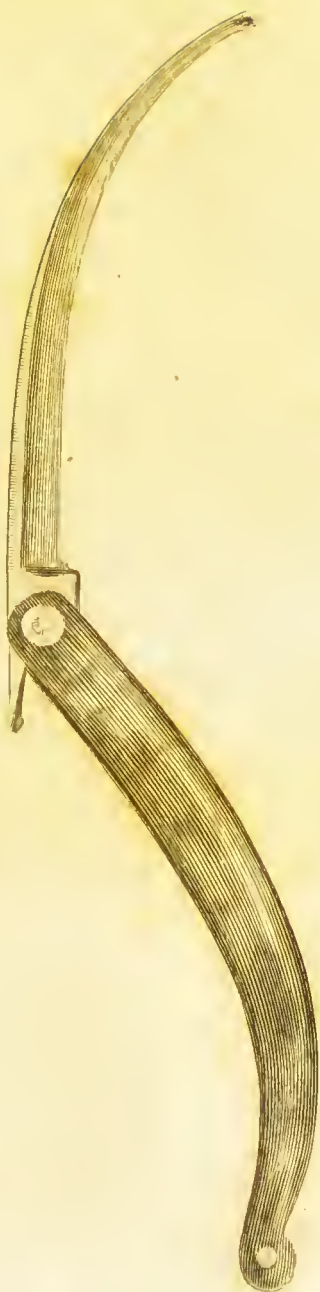
^b The late Mr. Frecke invented an instrument for this purpose; but it was, upon trial, found to cut the operator's finger, with so much more certainty than the patient's intestine, that it has long been laid aside.

that

that by pinching at the same time that they cut, they occasion a great deal of unnecessary pain. They are, I know, in great use with many, who if they were deprived of their probe-scissors, would think themselves incapacitated from doing business; but they are, upon all occasions where mere division is required, a very bad instrument; they may assist an awkward or an unsteady hand, but are more fit for a farrier than for a surgeon.

In all chirurgic operations, the instrument made use of cannot be too simple, nor too keen; and, if possible, should never be out of the sight or the direction of the finger of the operator; and, whenever it is, (as must sometimes necessarily be the case) it is liable to some degree of uncertainty. Scissors introduced into the rectum are always in this predicament; and are, therefore, (as well as on account of their pinching quality,) bad.

The curved, probe-pointed knife, with a narrow blade, I have always found to be the most useful and handy instrument of any. This, introduced into the sinus, while the surgeon's fore-finger is in the intestine, will





will enable him to divide all that can ever require division; and that with less pain to the patient, with more facility to the operator, as well as with more certainty and expedition than any other instrument whatever. If there be no opening in the intestine, the smallest degree of force will thrust the point of the knife through, and thereby make one: if there be one already, the same point will find and pass through it. In either case, it will be received by the finger in ano; will thereby be prevented from deviating; and being brought out by the same finger, must necessarily divide all that is between the edge of the knife, and the verge of the anus: that is, must by one simple incision (which is made in the smallest space of time imaginable) lay the two cavities of the sinus and of the intestine into one.

Authors make a very formal distinction between those cases in which the intestine is pierced by the matter, and those in which it is not; but although this distinction may be useful when the different states of the disease are to be described, yet in practice, when the operation of dividing the gut

becomes necessary, such distinction is of no consequence at all; it makes no alteration in the degree, kind, or quantity of pain which the patient is to feel; the force required to push the knife through the tender gut is next to none, and when its point is in the cavity, the cases are exactly similar.

This is the only operation which (in the circumstances under our present consideration) ever can be necessary; and this appears to me to be the safest, easiest, and most expeditious method of performing it.

I know that it is contrary to the opinion and practice of many; who think that the removal of some part, both of the intestine and of the verge of the anus, is necessary in these cases; but long and repeated experience has convinced me of the contrary: and I shall, in the next section, have occasion to speak more particularly to that point.

Immediately after the operation, a soft doffel of fine lint should be introduced (from the rectum) between the divided lips of the incision; as well to repress any slight hæmorrhage, as to prevent the immediate re-union of the said lips; and the rest of the sore should be lightly dressed with the same.

This

This first dressing should be permitted to continue, until a beginning suppuration renders it loose enough to come away easily; and all the future ones should be as light, soft, and easy as possible; consisting only of such materials as are likely to promote kindly and gradual suppuration. The sides of the abscess are large; the incision must necessarily, for a few days, be inflamed; and the discharge will, for some time, be discoloured and gleety: this induration, and this sort of discharge, are often mistaken for signs of diseased callosity, and undiscovered sinuses; upon which presumptions, escharotics are freely applied, and diligent search is made for new hollows; the former of these most commonly increase both the hardness and the gleet; and by the latter new sinuses are sometimes really produced. These occasion a repetition of escharotics, and, perhaps, of incisions; by which means, cases which at first, and in their own nature were simple and easy of cure, are rendered complex and tedious.

That this is the truth, without exaggeration, is well known to many; and whoever

I 2 will

will look over the writings of some of our immediate predecessors, or even of some of our contemporaries, will find that immediately after pinching and snipping the gut with scissors, we are directed to fill the incisions with lint; and, after having distended the cavity by such means, to dress, in future with such medicines as, though used under the specious names of digestives, detergents, &c. do really inflame and irritate the parts to which they are applied and retard, instead of encouraging, a kindly suppuration.

Among these, the *mercurius præcipitatus ruber* stands principal: this seems to have been the great external specific of most of our immediate predecessors, and to have been used by them for the very different purposes of destruction and restoration: with this either in dry powder, or mixed with unguent, the tents, pledgets, &c. with which they dressed these sores, were spread or embued; with this they dressed the recently-divided lips of the wound in the intestine, and with this they filled the whole cavity of the abscess.

That the same practice still too much
prevails

prevails, they who please, may be convinced^d.

I would beg leave to ask any patron of this method of dressing, what he would say to a man, who shall order a large tent, well charged with præcipitate, to be thrust up the undivided, unwounded rectum of a person, who, from any cause whatever, had an inflammatory defluxion on the hæmorrhoidal vessels and inside of the said gut? Would he not say that such tent would prove a fatiguing, inflaming suppository? and would he not be right in saying so? Is then the rectum rendered less sensible, and less irritable, by being wounded? Or can that very application, which proves a painful stimulus to a gut not divided, become an easy digestive one that is? If any man thinks that it will, I would advise him to make the experiment on himself; and I would then appeal to the testimony of his own unprejudiced sensations.

In short, to quit reasoning, and speak to fact only: In the great number of these cases, which must have been in St. Bartholomew's hospital, within these ten or twelve years, I

^d Mr. De la Faye, says—"Si les chairs s'elevent trop, on les consumera avec la pierre infernale;" and in many books of reputation, the butyrum antimonii, the trochisci e minio, the pulvis angelicus, &c. are prescribed for frequent use.

do aver, that I have not met with one in the circumstances before described, that has not been cured by mere simple division, together with light, easy dressings: and that I have not, in all that time, used, for this purpose, a single grain of præcipitate, or of any other escharotic.

Why is it that we hear so much of miracles performed by the paste of one quack? and by the injections, oils, and balsams of others? when we all know, that there is nothing specific for the cure of this disease in their compositions: and when we also know that the venders of these remedies are people whose ignorance in matters of physic and surgery is below all notice.

That these cures are much more frequently talked of than made, I well know; but that some few people, who have been long and unsuccessfully treated by surgeons, have got either well, or better, under the very negligent management of some of these quacks, is an incontestable truth; and very strange it is, that we do not see why.

Fas est et ab hoste doceri:—

The truth is: that, while we are looking for what these people do, we (if I may
be

be allowed the phrase) overlook what they do not do. It is true, we cannot find any specific quality in the strange jumble of ingredients which they put into their internal remedies; nor any particularly-fanative one in their injections, balsams, &c. and therefore are surprized at even the few instances of their success; but still overlook the one single circumstance by which the good is produced.

It is, and ever must be, a first principle in quackery, to disapprove and condemn whatever has been done before, be it right, or be it wrong: and it is also necessary for quacks, to avoid all connection with those who are called Regular Practitioners; as well in order to have the sole management of the patient, as to avoid inspection.

For these reasons, they always order all former dressings to be immediately thrown aside and refused; and not having in general ingenuity enough, even to seem to apply others, with any degree of judgment or dexterity, they make use of a mere superficial plaster, ointment or injection: that is, without intending any such thing, upon an honest or a rational principle, they, for want

of knowing what to do properly, leave the conduct of the sore to nature; who, when the impediment of dressings (which often offend either in quantity or quality) are removed, will do much more than her too officious assistants believe.

That the very few cures, which we have heard so much of, are produced in this manner, I am convinced; and so I am, that many of those which are thought by several practitioners to have been brought about by a multiplicity of dressings crammed in tight, and endeavoured to be kept so, by all the caution of compress and bandage, are very frequently effected by the constant and generally successful endeavours of nature, to thrust them forth again; or at least, so to displace them, that she gradually gets opportunities of doing her own business, in spite of the impediments of art. The business of good surgery is to assist nature; but she will, sometimes, get the better even of the worst.

Usque recurret,
Et mala perrumpet furtim fastidia vitrix,

S E C T. V.

IN the preceding section, I have supposed the matter of the abscess to have been formed, and collected; but still to have been contained within the cavity, until let out from thence by an incision.

I am now to consider it, as having made its own way out, without the help of art.

This state of the disease is also subject to some variety of appearance; and these different appearances have produced, not only a multiplicity of appellations, but a groundless supposition also, of a variety of essentially different circumstances.

When a discharge of the matter by incision is too long delayed or neglected, it makes its own way out, by bursting the external parts somewhere near to the fundament, or by eroding and making a hole through the intestine into its cavity; or sometimes by both. In either case, the discharge is made sometimes by one orifice only, and sometimes by more. Those, in which the matter has made its escape by one or more openings, through the skin only,
are

are called blind, external fistulæ; those in which the discharge has been made into the cavity of the intestine, without any orifice in the skin, are named blind, internal; and those, which have an opening both through the skin, and into the gut, are called complete fistulæ.

This is the language of all writers, as I have already observed: and thus, all these cases are deemed fistulous, when hardly any of them ever are so; and none of them necessarily. They are still mere abscesses, which are burst without the help of art; and, if taken proper and timely care of, will require no such treatment as a true fistula may possibly stand in need of.

The most frequent of all are what are called the blind external; and the complete. The method whereby each of these states may be known is, by introducing a probe into the sinus by the orifice in the skin, while the fore-finger is within the rectum: this will give the examiner an opportunity of knowing exactly the true state of the case, with all its circumstances.

Whether the case be, what is called a complete fistula, or not; that is, whether there

there be an opening in the skin only, or one there, and another in the intestine, the appearance to the eye is much the same. Upon discharge of the matter, the external swelling subsides, and the inflamed colour of the skin disappears; the orifice, which at first was sloughy and foul, after a day or two are past, becomes clean and contracts in size; but the discharge, by fretting the parts about, renders the patient still uneasy.

As this kind of opening seldom proves sufficient for a cure, (though it sometimes does) the induration, in some degree, remains; and if the orifice happens not to be a depending one, some part of the matter lodges, and is discharged by intervals, or may be pressed out by the fingers of an examiner. The disease, in this state, is not very painful; but it is troublesome, nasty, and offensive; the continual discharge of a thin kind of fluid from it, creates heat, and causes excoriation in the parts about; it daubs the linen of the patient; and is, at times, very foetid: the orifice also sometimes contracts so, as not to be sufficient for the discharge; and the lodgment of the matter then occasions fresh disturbance,

The means of cure proposed and practised by our ancestors, were three, viz. caustic, ligature, and incision.

The intention in each of these is the same, viz, to form one cavity of the sinus and intestine, by laying the former into the latter.

Fear of hæmorrhage, in making a large division of parts, and a design to destroy callosity, gave rise to the use of caustics for this purpose. By the introduction of them in different forms and manners into the sinus, that part of the intestine which divides its cavity from that of the abscess is intended to be destroyed; and thereby the proposed end of making one cavity of two is to be accomplished; while at the same time, the supposed callosity is to be wasted. For this purpose, some of the most fatiguing and painful escharotics have been prescribed and used: the pulvis angelicus, the lapis infernalis, and troches and pastes made with sublimate, arsenic, &c. But the method is so cruel, so tedious, and so inexpert, that I hope it is by this time totally out of use: it was founded in error, tends only to

mischief, and I will not waste the reader's time in saying any thing more about it.^a

The terror which a cutting instrument necessarily carries with it, the fear of a flux of blood from some considerable vessels, together with a strange, nonsensical opinion, that a gradual division of the parts was followed by a more sound cure, than an immediate one by cutting, produced the coarse, unhandy method by ligature. The manner of using it was this: A probe, or needle, (according to the complete or incomplete state of the supposed fistula) armed with a

^a Doctor Daniel Turner, who practised surgery within these few years, used this method in its full extent. In his works may be found an account of his forming tents of the trochiscus minio, and thrusting them into the sinus, there to remain till they had produced a sufficient eschar. In the same writer are accounts of strong probe-scissors, made to cut through parts of a considerable thickness, and where the external orifice was at a great distance from the anus: and of an iron scoop, made (to use the doctor's own words) like a cheese-monger's taster, to be thrust up the rectum, and assist in the division of it. What ideas this gentleman had of the disease, or of human sensation, I cannot imagine. The same gentleman, speaking of the use of this iron scoop, tells us, that when he used it on one particular patient, the man thought that the Doctor was only thrusting up the dressings. It is no difficult matter to conceive what kind of dressings this man must have been accustomed to, who could not distinguish between the application of them, and the thrusting up an iron scoop.

strong ligature, was introduced, either naked or in a cannula, by the orifice in the buttock, and brought out at the anus, by the operator's finger: when that was done, the two ends of the said ligature were tied together, in such manner, and at such repeated times, as by degrees to cut through all that was between its loop and its knot; that is, all that part of the intestine which was next to the sinus.

Among writers on this subject will be found very formal directions about the proper time of the year for performing this operation; as well as concerning the proper materials wherewith to make the ligature. But as the whole operation is, on every principle of ease, expedition, safety or certainty, unfit for practice, it would be an abuse of the reader's patience to dwell any longer upon it^b.

The

^b See Celsus, whose account of the method by ligature has been followed by most of the writers since. "In has
 " demisso specillo, ad ultimum ejus caput incidi cutis debet;
 " dein novo foramine specillum educi lino sequente; quod in
 " aliam ejus partem, ob id ipsum perforatam, conjectum sit:
 " ibi linum apprehendendum, ligandumque cum altero capite
 " est; ut laxè cutem, quæ super fistulam est, teneat: idque
 " linum

The third method is that by incision.

I have already given my opinion on what appears to me to be the best and most proper method of dividing the intestine, in the case of a collection of matter formed juxta anum.

The intention to be aimed at by incision in the present case, is exactly the same, and (I think) ought to be executed in the same manner. I never saw that any other kind of operation was necessary; I have not for many years performed any other; and I do not recollect a single instance in which it has failed to produce a cure, in such cases as were curable by any means.

If, therefore, I intended to give my own opinion merely on this subject, I should say, the same division of the intestine, and with the same instrument, is all that is required; and, referring my reader back to the preceding section, should give him no farther trouble on this head. But as I find my sentiments in this matter are somewhat different from

“ *linum debet esse crudum, & duplex, triplexve, sic tortum*
“ *ut unitas in eo facta sit. Interim autem licet negotia agere,*
“ *ambulare, lavare, cibum capere, perinde atque sanissimo,*”
&c.

those

those of many, I must beg leave to be indulged in the use of a few words.

I have said, that in whatever manner, or with whatever instrument, the intestine be divided, the intention is the same; viz. to lay the cavity of the abscess into that of the gut, and thereby to convert a hollow finous sore into an open one; preventing, by the same means, the future lodgment of matter, and giving room for the application of proper dressings.

The two cases (a collection of matter, and a sinus) seem to me to require exactly the same treatment; and I have never found it fail of being equally successful in both; that is, I never found that the matter having found its own way out, made any other operation on the gut except the mere simple division, at all necessary.

But it is said, and that by authors to whom great regard is due, that this is not all that is requisite, especially in the present circumstances; that this will not produce a cure, or assure success; that mere division of the intestine is not sufficient; and that, unless we cut out, remove and extirpate a portion both of the said intestine, and
the

the skin constituting what is called the verge of the anus; a firm and lasting cure will not follow. This is the doctrine of writers of eminence, and the practice of a large body of surgeons.

When I have mentioned the names of Cheselden, De la Faye, and Le Dran, I need not cite any others of less note. The first of these was a gentleman whose reputation in his profession was great; the two latter are in as high character now in France. The influence of these upon their readers must be considerable; and therefore it becomes a matter of the more importance that their doctrine be just and defensible.

The methods which these gentlemen have proposed, and which have been by many adopted, are somewhat different from each other, but do all tend to the same purpose; are all calculated to prevent imaginary evils; and are all productive of real ones.

Mr. Cheselden, in the last edition of his Anatomy, says, — “ The true fistula runs
“ between the muscular and inner coat of
“ the rectum: it is cured by opening it the
“ whole length into the cavity of the gut;
“ but it is yet better, if it can be done, to
VOL. III. K “ extirpate

“ extirpate all that is fistulous and scirrhus;
“ for that is a sure way to make one operation
“ perfect the cure.”

In his Observations, published at the end of Mr. Gataker's translation of Le Dran's surgery, Mr. Cheselden describes a method of his own inventing, by the introduction of one blade of a pair of polypus-forceps into the sinus, and of the other into the rectum; by which means, a certain portion of the intestine is held fast between the chops of the instrument, in order to be cut out with the scissors.

After having given an explanation of a plate, designed to represent the forceps introduced in such a manner as to hold the piece of intestine fast, he adds, — “ I formerly cut out a pyramidal piece in the manner here described; but I find this way with the forceps much more convenient, and more easy to be executed.”

How much this method may be preferable to that which Mr. Cheselden used to practise, I know not; but I will venture to say, that this more easy method is horridly painful, is operose, and absolutely unnecessary towards obtaining a cure.

The

The wound, that is, the orifice of the sinus in the buttock, is by Mr. Cheselden's direction, to be first dilated with a sponge tent; then one of the blades of a pair of large polypus-forceps is to be thrust up the sinus, while the other within the intestine pinches it between them; and then this piece so pinched is to be snipped out by the repeated attacks of a pair of scissors. A very tedious and very painful operation this must necessarily be; and by Mr. Cheselden's own account, not always successful: for although he does say,—“The operation being thus performed, I have
“never found wanting a second cutting;” yet he immediately adds,—“If, after this
“operation, there is still an internal discharge into the gut, it may be an useful
“issue; and continue the benefit which nature designed by the disease^c. We should

^c This is a method of making an issue to which few people would (I believe) chuse to submit: especially if they consider that they might have enjoyed all the benefit of it, without any operation at all; merely by leaving their disease to nature. The same gentleman, speaking of the intestine rectum, tells us, that he once applied a caustic lengthways on the inside of the inverted gut, to cure a prolapsus; and adds, that it proved successful. This I am almost sorry for; lest Mr. Cheselden's authority should tempt any other person to make the same attempt.

“ also be very careful not to perform it when
 “ the patient is troubled with the piles; for
 “ I have known one in that case bleed to
 “ death.”

It would be no difficult matter to make great objections to this method of operating, even if the one thing intended by it was necessary; I mean the extirpation of a portion of the rectum: this end might certainly be obtained by easier means: but as that is not the case, as such extirpation appears to me to be totally unnecessary, I shall not enter into it.

Mr. De la Faye, a practitioner and writer of eminence in France, and a gentleman to whom the chirurgic world is much indebted, is a warm patron of the practice of cutting away both a part of the intestine and of the skin composing the verge of the anus. After the external incision, necessary for letting out the matter, has been made, he says,—“ Si
 “ les pus a fait un progres considerable du
 “ coté de la fesse, on y fera une autre inci-
 “ sion, qui tombera perpendiculairement sur
 “ l’incision longitudinale; on coupera les
 “ angles formez par ces incisions, pour ren-
 “ dre l’exterieur de la playe plus large que
 “ le

“le fond, & pour panser plus aisément.”
‘ If the matter has extended itself consider-
‘ ably toward the buttock, another incision
‘ should be made, in such manner as to cross
‘ the former; the angles formed by which
‘ incisions should be cut away: as well to
‘ render the external part of the wound
‘ larger than the internal, as to give room
‘ for the more convenient application of
‘ dressings to the fore,’

If Mr. De la Faye had ever, in his own person, had the misfortune to experience the inconvenience arising from the loss of skin near to the fundament; or had he attended to that which it produces to those, who either from choice, or necessity, ride or walk much, I am inclined to believe he would have been more sparing of it.

For the first three or four days, this kind of incision does, certainly, render the applications of dressings more convenient; because the wound is thereby considerably enlarged; but as soon as digestion has softened the edges of the single perpendicular incision, that difference ceases; and the dressings may be applied with equal facility to the one as to the other.

After this period is past, the difference between the two is, indeed, much more considerable; the cutting away the angles, adding not a little to the length of time requisite for a cure; rendering the fore much larger, and more troublesome; and subjecting the patient, very often, to great inconvenience, arising from the kind of cicatrix which it necessarily produces.

Mr. De la Faye, after having described the manner of passing the probe, or the fulcated director, in order to make a simple longitudinal division of the intestine, adds,—“ On
 “ ne se contente pas aujourd'hui de couper
 “ la fistule entre les deux extrémités du
 “ filet; on fait une incision qui renferme
 “ dans son circuit ces deux extrémités: et
 par le moyen de laquelle, en les tirant en
 “ meme temps, on emporte toute la fistule,
 “ qui se trouve comme embrochée dans l'anse
 “ formée par cette instrument:^d on fait en-
 “ suite a la partie inferieure de la playe, une
 “ incision, qui sert comme de gouttiere á la
 “ suppuration.” The pretent practitioners
 do

^d It might be supposed, from the manner in which this is delivered, that the method was a modern invention: whereas it is, on the contrary, a very old one. Guido's description
 of

do not content themselves with merely dividing the sinus; but making use of the probe as a kind of loop, they pull the parts towards them: and then, by a free and almost circular incision cut out the whole fistula; after which they make such an incision in the lower part, as may best

of it is as follows.—“*Penetrantes fistulæ (secundum Rhazin)*
“*non sanantur, nisi cum ligatione, et extractione cum falce.*

“*Modus incisionis cum falce est, quod extrahatur cum*
“*chordula immissa extra quantum possibile erit intestinum*
“*comprehensum per ipsam chordulam; et post intromittendum*
“*positum ab Albucasi bene scindens; totum illud, quod com-*
“*prehensum est cum chordulâ scindatur; ita, quod chordula*
“*expediatur.”*

GUIDO.

So also Brunus, having described the method by ligature, goes on to that by incision.

“*Operatio autem secundi modi est, ut non stringatur spacus*
“*[the ligature] sicut narratum est ad incidendas carnes, sed*
“*ligentur tantum ipsius extremitates simul, et ut sit iste spacus*
“*fortior et grossior illo qui carnes incidit: deinde extende*
“*spacum cum unâ manuum tuarum versus exteriora, et cum*
“*alterâ manu tuâ incide illas carnes quæ sunt inter illas duas*
“*extremitates, spaci, cum instrumento curvæ extremitatis.”*

This is exactly, what is now by some called, Cutting upon the Wire; and I have seen in the hands of a very ingenious gentleman, a single instrument, very capable of executing all this purpose; that is, of cutting out ten times as much as ever can be necessary.

The same account is to be found in Lanfrance, Rogerius, and most of the old writers; who, in this, as in most other instances, have done little more than merely copy each other.

‘serve the purpose of a free discharge of
‘matter.’

This method, as far as regards the mere operation, is certainly preferable to that with the forceps and scissors; but it produces the same destruction of the parts, and the same future inconveniences; like that, it is built upon a supposition, that such a removal of parts is necessary toward a cure; and, therefore, like that, stands upon a supposition which is not true.

The same gentleman, in another paragraph, admits, that this method of operating is not proper in certain circumstances (which circumstances cannot possibly render the disease easier of cure;) and in such case, advises the mere longitudinal section of the gut.—“ Neanmoins, le canal fistuleux pour-
“ roit être si profond, ou le trou extérieur
“ de la fistule dans un lieu de la fesse si
“ éloigné du fondement, qu’ en faisant
“ l’operation de la maniere-qu’ on vient de
“ decrire, on emporteroit une trop grande
“ portion de la substance. En ce cas on
“ ouvre sur une sonde canelée la fistule dans
“ sa longueur,” &c. ‘ Nevertheless, the
‘ fistulous hollow may be so deep, or the ex-
‘ ternal

ternal orifice in the buttock at such distance from the anus, that, if the operation be performed in the manner just described, it would occasion too large a loss of substance. In this case, the sinus must be opened lengthways by means of a grooved director.' Mr. De la Faye does not indeed say, in express terms, that this longitudinal division will be sufficient for a cure; but I will venture to say for him, that I know, from repeated experience, that it will. The observation, therefore, which this gentleman has made, concerning the loss of substance, is not only just and true in itself; but it is also an observation, which, if properly attended to, will lead to a truth which he does not seem to have been sufficiently apprised of; which is, that every operation of this sort, (that is, every extirpation of parts,) is unnecessary, and therefore wrong. Large hollows, in which considerable quantities of matter have been formed; whose extent, with regard to the intestine, is deep; and whose orifice is in the buttock, at a distance from the anus, have always more induration about them, and discharge a larger quantity of gleet, than those which are smaller, more shallow,

shallow, and thinner; and whose matter has burst its way out, by an opening near to the fundament. If the former then are curable by a mere longitudinal division of the intestine, without excision, which Mr. de la Faye, by his prescription, in some measure allows; (and which is a truth beyond contradiction or contest) surely extirpation must be unnecessary in the latter. It can hardly be supposed, that nature will be able to do more in cases attended with increased difficulties and impediments, than in those where every circumstance is more favourable, every hindrance less. And yet, whoever cuts away a portion of the intestine in the latter, and omitting, or not performing such operation in the former, finds that they will do well without it, must reason in that manner, and shut his eyes against conviction.

Mr. De la Faye is indeed sensible of the ill consequences which such treatment produces, and has endeavoured to guard against them as well as he can; but whoever has been so unfortunate as to have been so treated, knows that all these precautions are, in general, ineffectual: his words are,—

“ *Lorsqu'on*

“ Lorfqu’on a coupé dans l’operation une
“ portion confiderable du bord de l’anus,
“ & que les chairs commencent a remplir
“ le vuide, il faut mettre dans l’ouverture
“ de cette partie une tente, un peu courte,
“ qui en empechant le retreciffement lui
“ conferve fon diametre.”—‘ When a con-
“ fiderable portion of the verge of the anus
“ has been cut away in the operation, and
“ new flefh begins to fill up the void fpace,
“ a fhort tent fhould be introduced into the
“ part, in order to hinder the fundament
“ from contracting in its diameter;’—but
which it will often do, in fpite of all the
tents in the world.

Mr. Le Dran, a writer and practitioner of confiderable figure in Paris, and whole works have been tranflated into Englifh by Mr. Gataker, is very particular with regard to this difeafe, and the method of treating it; and is alfo an advocate for this excifing fcheme, even more than Mr. De la Faye.

This gentleman uſes the term fiſtula, without any regard to the date of the difeafe, or any attending circumſtances, except the common and almoſt neceſſary ap-
pearances

pearances when an abscess of this kind has been suffered to burst, viz. a small orifice, some degree of induration, and a discharge of fæcal matter: all which are circumstances that necessarily accompany every abscess formed in the neighbourhood of, and piercing the rectum: and this, at the very first hour, full as much as at any time after. So that, according to this manner of using the term, an abscess so circumstanced, and a fistula, are synonymous: which I apprehend cannot be, without confounding together two things materially and essentially different from each other. He says,—“ Je
 “ vois un petit trou a coté de l’anus, je
 “ sens des callosités autour, et je vois sortir
 “ par ce trou une assez grande quantité de
 “ pus; je conclus que c’est une fistule qui
 “ peut-etre interesse l’intestin rectum. Je
 “ vois sortir, par ce trou un peu de matiere
 “ stercorale delayée; ou bien le malade me
 “ dit, qu’il en sorte quelquefois; je ne
 “ doute plus que le boyau ne soit percé;
 “ et je dis que c’est un fistule complete.”
 —‘ When I see a small orifice by the side
 ‘ of the anus, and perceive a hardness round
 ‘ about it, and find that it discharges a large
 ‘ quantity

‘ quantity of matter, I conclude that it is
‘ a fistula, which most probably affects the
‘ rectum. When I find something like
‘ fæces discharged from this orifice, or
‘ mixed with what is discharged from it;
‘ or the patient informs me that such kind
‘ of discharge is made; I call the disease a
‘ complete fistula.’—This is, undoubtedly,
the general custom; notwithstanding which,
the disease, in the state Mr. Le Dran has
described it, may have no one true cha-
racteristic of a fistula; nor require any of
that treatment which is said to be necessary
and proper in such case. A matter of great
consequence to the patient.

In the operative part of the treatment of
the disease, Mr. Le Dran warmly espouses,
the free removal, or extirpation of parts.—

“ S’il ne l’est que d’une coté, il faut em-
“ porter ce qui est denué; certain que si
“ l’on le laisse, la playe restera fistuleuse;
“ et que si l’on se contente de le fendre, les
“ deux lambeaux flottans, dans, la playe
“ rendront les pansemens tres difficiles, et
“ meme la playe fistuleuse.”—‘ If the dis-
‘ ease be on one side only, all that part of
‘ the intestine, which is laid bare by the
‘ matter,

‘matter, ought to be cut away; because,
‘it is certain, that if such part be left in
‘the wound, it will become fistulous; and
‘that, if we only make a simple division,
‘the divided lips will hang loose and float-
‘ing in the wound; will render the ap-
‘plication of dressings difficult, and make
‘the fore fistulous.’

These are Mr. Le Dran’s words and sentiments: and this the method of practice which is taught and followed by the majority.

That some small part of this process may be necessary in the true, old, callous, fistulous fore, I do not deny; (though not even then, in any degree equal to the above direction) but that the whole of it is absolutely unnecessary in the recent abscess, I can, from repeated experience, venture to affirm: That mere division of the naked intestine (if such division be dressed properly) will not render a sinus fistulous, which was not so before, is a truth as clear as any in Euclid; and, indeed, it is to me matter of wonder how such opinion could ever be embraced. The division of the intestine, by laying the cavity of the sinus open, destroys or removes the
principal

principal circumstance which can make such a case resemble a fistula; by converting a hollow sinous ulcer into an open one: and with regard to the other characteristic, induration, certain it is, that if the knife does not find the parts hard, it cannot possibly make them so; on the contrary, it puts them under a necessity of undergoing such a degree of suppuration, as, if properly managed, will prove the cure of that very induration.

Mr. Le Dran says, "That the lips of
"the wound will hang floating; will render the dressings difficult, and the fore
"fistulous." I think I understand what Mr. Le Dran means: the tumid lips of the recently-made incision will certainly be a hindrance to the cramming in a quantity of dressings; and such attempts will, as certainly, increase the tumefaction and hardness; and, if persisted in, with the help of a little escharotic, may bid fair for producing a callous sore: but all this lies at the door of the surgeon, and not of the case: all this is unnecessary, improper, and pernicious. I cannot, under such treatment as I would call good surgery, conceive the
tumefaction

tumefaction and inflamed state of the lips of the divided gut to remain more than a few days; during which time, it must be the business of art to appease, relax, and produce suppuration; which, if properly executed, will infallibly prevent all tendency towards a fistulous sore, instead of producing one.

That the lips of the wound in the rectum will not separate from each other, in such manner as to admit a large quantity of lint; and that the membranous structure of the part will render such lips large, and subject to inflammation, until some degree of suppuration comes on, is beyond all doubt; but neither of these are reasons for extirpation: for the inflammation will be full as high where a piece is cut out, as where the part is merely divided, and all the symptoms of pain and uneasiness full as great, if not greater: and with regard to the impracticability of putting in a quantity of dressing, I repeat, that it is not at all necessary; but that, on the contrary, it is wrong, and tends only to mischief. A dossil or two of fine lint should, immediately after the incision is made, be placed between the

divided lips, by passing them from the cavity of the rectum laterally into the cavity of what before such division was the sinus: these should not be removed, until either the beginning suppuration, or the necessary action of the gut in going to stool, throws them out; when their place should be supplied with others of equal size, imbued with an easy soft digestive.

If the patient be in health, the lips of this wound, like those in all other membranous parts, after they have been crude, tumid and inflamed, and have for a few days discharged a thin, discoloured kind of gleet, will begin to suppurate: if such suppuration be by proper, that is, by soft, gentle, treatment, encouraged, not only the tumefaction and inflammatory hardness brought on by the incision will soon subside and disappear, but also all the induration which attended the sinus before it was laid open.

On the other hand, if the patient's habit be bad, and no such inflammatory tumefaction succeed to the incision; but instead of it the lips of the wound are soft, flabby, and inclining to be livid, the case has undoubtedly an unpromising appearance; but the re-

medy is not chirurgicall: removal of parts will not remove or amend this state of the fore, or at all lessen the hazard arising from it: it may indeed render the introduction of dressings somewhat more easy; but it neither will, nor can make such dressings at all more effectual, or more conducive to the one end which ought to be pursued.

In such case, the remedy must be an internal one; and whoever depends upon externals will give his patient much unnecessary trouble and only waste his time.

The truth is, this doctrine of the necessity, of cutting out a portion of the intestine, (though it is as old, or perhaps older than Celsus^f) is almost a necessary consequence of the manner in which these sores (upon a supposition of their being fistulous) almost always have been, and do still continue to be, generally treated.—I mean, the custom of cramming them full of lint, and of charging that lint with medicines, which, though

^f ‘ In hoc genere demisso specillo, daubus lineis incidenda
 ‘ cutis est, ut media inter eas habenula tenuis admodum injicia-
 ‘ tur, ne protinus ora cocant, sitque locus aliquis linimentis,
 ‘ quæ quam paucissima superinjicienda sunt, omniaque eodem
 ‘ modo faciendæ, quæ in abscessibus posita sunt.’ CELSUS.

used under more gentle appellations, are really escharotics. Upon this plan, I am willing to allow that the lips of the divided intestine will be in the way, and prove a considerable impediment in the introduction of such dressings; and I will also allow, that by means of such medicines, the whole wound will be irritated, inflamed, and hardened; and so far wear the appearance of being fistulous, as neither to yield good matter, nor be disposed to heal; at least, not till nature has got the better of the surgeon.

What Mr. Le Dran says, in another paragraph of the same tract, may serve to strengthen what I have asserted. — “ S’il est
 “ denué des deux cotés, il faut pour le con-
 “ server, faire à l’autre fesse une contrecouver-
 “ ture, pres de là, & la faire assez longue pour
 “ pouvoir panser commodement; puis ecou-
 “ ter ce que la nature fera pour lui.” — ‘ If
 ‘ the gut be denuded on both sides, a coun-
 ‘ ter-opening should be made on the other
 ‘ side, long enough to permit, conveniently,
 ‘ the application of dressings; and then we
 ‘ should wait, and see what nature will do
 ‘ toward assisting the patient.’

A very important piece of advice this;

worth all the directions for the extirpation of parts; and which, if timely and duly attended to, will, generally, render all such directions quite unnecessary.

It is, indeed, somewhat remarkable, that the same gentleman should give the above very excellent advice, and, almost in the same breath, add what follows.—“ S’il est denué
 “ exact ément dans toute sa circonference, &
 “ que son depouillement ne s’étend pas plus
 “ haut que les releveurs de l’anus, il faut
 “ emporter tout ce qui est denué.”—‘ If the
 ‘ intestine be bared by the matter all round,
 ‘ and this denudation does not extend above
 ‘ the levatores ani, all that part which is so
 ‘ bared, should be extirpated.’ That is the, whole verge of the anus: all that part which is so formed by nature, as, by its relaxation to permit the largest and most solid stool to pass out; and, by its constriction, to detain and keep in, for a while, the most fluid, sharp and stimulating one; all that part which when destroyed or removed, not only never can be renewed, but never can have its place supplied, nor its office properly executed by what must succeed to it: surely it may, with great justice, be said, that the last state of a man

in

in these circumstances is worse than the first; and that his remedy proves a most afflicting disease^s. Prejudice

^s In the Memoirs of the French Academy, is a case of this kind, related by Mr. Faget. The patient had an abscess on each side of the rectum; which, before Mr. Faget saw it, had been opened without meddling with the gut.

The two abscesses communicated by a hollow or sinus under the os coccygis; the depth in all the upper part is described to be about two inches, but in the perineum the skin only was separated; that is, the hollow was quite superficial. After five months attendance, during which time the rectum was never divided, the patient was brought to Paris; where in a consultation between the Messieurs Faget and Boudon, it was agreed, that the only method of obtaining a cure, must be by extirpating, or cutting away the whole extremity of the intestine, as deep as it was laid bare; which operation is thus described — “ Je perçai d’abord le rectum de droit à gauche, avec un gros “ silet; avec lequel je fis l’anse. Je commençai à couper le “ lambeau de peau qui tenoit au coccyx, & je continuai tout le “ long d’attache des muscles releveurs jusqu’ à la partie moyen- “ ne du perinée, où il y avoit beaucoup de dureté, & de callo- “ sitez, que j’emportai; je pansai la playe avec un gros bour- “ donnet, & des lambeaux de linge trempés dans l’eau alumi- “ neuse, le tout soutenu par plusieurs compresses & un bandage “ convenable,” &c. Mr. Faget says, that the patient was six months longer in getting well. To which I must take the liberty of adding, that he was much more fortunate than some whom I have seen under the same treatment. The relator, in the rest of the memoir, endeavours to explain the method by which the new anus became capable of executing the office of the old one; and very justly seems to wonder, why the surgeon, who first had the care of the patient, and who first opened the abscesses, did not divide the rectum in each of them. Mr. Faget’s surprise, and his censure on the operator, are

Prejudice often prevents us from seeing truth, though it stands before us : for Mr. Le Dran, though he so strongly recommends the extirpation of a portion of the intestine, yet has made the same observation on those fistulæ which run too high for extirpation, as Mr. De la Faye: he has very justly remarked, that they will do well without such operation: and has given so good and so true an account of the matter, that it is amazing he should not see, that the same method, both of reasoning and of acting, was equally applicable to both cases; that is, to those fistulæ which do not extend so high, as well as to those which do. He says,—“ On
 “ trouve souvent des sinus qui montent fort
 “ haut le long du rectum; & même vers la
 “ vessie, dans la tissu cellulaire qui entoure
 “ ces parties: sinus qui semblent devoir
 “ rendre ces maladies incurables, parcequ'ils

certainly well founded: but I must own that it seems to me to be full as extraordinary, that he, who saw the propriety of its having been done before, should not, at least, try what it would do afterward. If this experiment had been made, and the case properly conducted, I make little doubt that the patient might have been cured without the loss of his fundament. A loss, which, though possibly in youth and health he might not be so sensible of as to alarm him, yet in age, or a state of debility, must prove a very grievous one.

“ vont

“ vont plus haut que le doigt ne peut aller.
 “ Mais l’expérience m’a appris que ces sinus se
 “ remplissent presque toujours dans les six
 “ premiers jours—ou pour parler plus jus-
 “ tement, que les chairs se rapprocherent,
 “ n’ayant été qu’ écartés par les pus, &
 “ non fondues.”—‘ Sometimes we meet with
 ‘ sinuses, which run so high in the tela cel-
 ‘ lulosa, along the rectum, and up toward
 ‘ the bladder, that one would be inclined to
 ‘ believe them to be incurable, from their
 ‘ being beyond the reach of the finger^h; but
 ‘ I have

^h It is hardly decent for a surgeon to say it; but I am much inclined to believe that this circumstance of the sinus being out of the reach of the finger is the very individual one on which the expedition of the cure (that is, the shortness of the time in which Mr. Le Dran says that he finds these cavities filled up) depends. For if they were within the reach of the finger of an operator who thinks as this gentleman writes, he would immediately go to work with his instruments; and if he did nothing worse, must necessarily prolong.—It has always been a very generally-received opinion, that if the hollow of the sinus be higher than a finger in ano can reach, all chirurgic operation is fruitless. There is hardly an author ancient or modern who has not inculcated this doctrine, though daily experience might have convinced them of its falsehood.

Among the rest Heister has given us his opinion on this subject, in the most positive manner: —“ Et sane nisi digitus,
 “ in anum depressus, fistulæ os attingere valet, verum illud
 “ adhuc profundius latet, sine vitæ periculo, ob metum læden-

‘ I have learned from experience, that these
 ‘ sinuses fill up within the first six days.—
 ‘ Or,

“ *darum venarum majorum, sectio institui nequit; adeoque*
 “ *tunc parum plerumque, imo vero nihil omnino chirurgi*
 “ *artificia proficiunt,*” &c.

This, which, as I have observed before, is the doctrine of all our writers, has always stood upon the same principle, viz. the fear of hæmorrhage; and all the propagators of it have always supposed, that nothing but a division of the whole sinus could possibly produce a cure; which supposition is by no means true.

When the case is an abscess formed in the cellular membrane, the length of the sinus must be proportioned to the distance of the seat of such abscess from its external orifice: this is sometimes considerable, quite out of the reach of the finger in ano, but it does by no means follow, that either this sinus must be divided through its whole length; or that the disease cannot be cured; and therefore that it is better not to meddle with it at all. Frequent experience proves the contrary. If all that part of it which is within the reach of the finger in ano, (that is, all that part of it which is principally affected by the action of the muscles of the anus and rectum) be fairly divided; if the wound so made be dressed in such manner as to produce no inflammatory irritation; if it be not frequently poked into, and examined; and the patient's habit be properly taken care of, the length of the sinus will add very little to the difficulty attending the cure; all that is out of reach will collapse and heal; and the case will very soon be exactly the same, as if the whole hollow was within the finger's length.

The probability of an hæmorrhage from the large vessels about the upper part of the rectum, is a thing which ought by all means to be avoided, as it might give a great deal of trouble, and create some hazard; but the operation which would induce
 such

Or, to speak more properly, that the membranes, which have been only separated, and not dissolved by the matter, again approach each other.'——

Can any man give a more rational or more true account of this matter, or produce a stronger argument against cutting out a part of the intestine? The operator's finger cannot reach the upper part of the sinus, and therefore he cannot extirpate: but sinuses, which, by being out of reach, cannot be extirpated, do well without it, merely by the help of nature; who, when the matter is discharged, and such an opening made as prevents any future lodgment, brings the sides of the cavity together, and endeavours thereby to

such apprehension being quite unnecessary, this risk is out of the question.

The last-mentioned author (Heister) although in general a very exact and careful writer, seems, in his observations on this complaint, rather to have copied what our predecessors have written on it, than to have given us what his own experience might have furnished him with: the latter would have convinced him, that all his preparation by bleeding, purging, &c. before the operation, is quite unnecessary; that the blind fistulæ are very little, if at all more difficult of cure than the open ones; and that the disease in question admits of being treated and cured in pregnant women, as perfectly and as easily as in those who are not so. The contrary doctrines are certainly no rules of good practice, however venerable they may be from their antiquity.

obliterate

obliterate it. It is true that she can but seldom accomplish this end entirely ; I mean, throughout the whole length of the sinus ; the lower part generally remaining open, though contracted to narrow compass : this it is most frequently absolutely necessary to divide, in order to obtain a cure ; but that part of the said sinus (if there be any) which is out of the reach of the instrument guided by the finger in ano is not a matter of that consequence which it is supposed to be. If the lower part, or what is fairly within reach, be divided, such division will, in most cases which are curable at all, be fully sufficient for a cure, as I have often and often experienced. I know that this is contrary to the generally-received doctrine, but I know it is true ; and am much inclined to believe, that the supposition of the necessity of laying open the whole sinus, however deep it may run, has contributed greatly to the fatigue and hazard which many people have unnecessarily undergone in this disease : it has occasioned such poking with long probes, and such cramming in of tents and dressings, as have proved extremely pernicious ; and brought on symptoms and trouble, which would not have

have attended the same cases under other management.

One word more, and I have done with this part of my subject. As I have given my opinion so freely concerning the practice of excision, a representation of the inconveniences likely to arise from it might from me be thought to be an exaggeration: I shall, therefore, take the liberty once more, to quote Mr. Le Dran; who, considered as a patron of the practice, cannot be supposed to overcharge it. He says,—“ Cette grande
“ playe sera dans les commencemens pancée
“ comme les autres; mais quand les chairs
“ commencent a se rapprocher, elle demande
“ des attentions particulieres; sans lesquelles,
“ l’anus deviendrait si étroit que les excres-
“ mens ne pourroient y passer; pour peu
“ qu’ils ont de consistance. Il faut donc
“ alors metre jusque dans le rectum une
“ tente de linge, lisse, assez longue, & assez
“ grosse, pour entretenir le passage. Il faut
“ même sur le fin, supplier a cette tente, par
“ une espece de suppositoire d’yvoire, percé
“ en forme de cannule; & avoir soin de la
“ bien assujettir par la bandage, a fin qu’elle
“ ne sorte pas. La cicatrice étant faite, il
“ faudra

“ faudra que le malade porte cette supposi-
 “ toire encore pres d’un an ; sans quoi la
 “ cicatrice ferreroit l’anus de plus en plus.”
 — ‘ This large wound should, at the first, be
 ‘ dressed like any other ; but when the sides
 ‘ begin to approach each other, it will then
 ‘ demand particular attention, lest the funda-
 ‘ ment should become so contracted, that
 ‘ the fæces, if they be at all hard, cannot be
 ‘ expelled. Therefore, in order to keep the
 ‘ passage of a proper size, a smooth tent
 ‘ made of linen should be introduced ; which
 ‘ tent should be of such a size and length,
 ‘ as to serve the purpose for which it is in-
 ‘ tended. Toward the close of the cure,
 ‘ in the place of this, an ivory suppository,
 ‘ made in the form of a cannula, must be
 ‘ substituted, and kept constantly in, by
 ‘ means of a proper bandage. Which sup-
 ‘ pository must be worn for near a year after
 ‘ the sore is perfectly healed ; otherwise the
 ‘ cicatrix will contract the anus still more
 ‘ and more every dayⁱ.’

ⁱ To which he might have added, that when all this is done, and every precaution of this kind used, the patient will always find it difficult and painful, and sometimes absolutely impossible to retain a loose stool ;—an evil still greater than the trouble of expelling a hard one.

This

This is what is called cutting for a fistula : this is the operation which they who have undergone it do so pathetically describe and lament, and what they, who have the misfortune to be afflicted with the disease, do (from the account of others) so fearfully dread. It is true, that it has the sanction of several eminent writers ; that it is practised by many surgeons ; and that it is recommended and exhibited by anatomico-chirurgical teachers ; but, notwithstanding these authorities, I shall not scruple to say, that it is cruel, unnecessary, and wrong.

That by these means abscesses juxta anum, and fistulæ in ano, (as they are called) are cured, I make no doubt ; nay, I know that they are : but I also know from repeated experience, that they are curable by means which are more expeditious, more easy, and neither hazardous in the use, nor productive of evil in the event. I mean by mere simple division of all that part of the sinus which is within reach ; by soft, gentle treatment of the sore after such operation : and by proper care of the habit^k. The

^k When the habit is out of order, as it most frequently is in persons afflicted with this disorder, if recourse be not had to internals,

The hæmorrhage, (to say nothing of the pain) which now and then attends the extirpation of a large piece of the intestine and fundament, is alarming, both to weak minds and to weak bodies; and the inconveniences arising from loss of substance about the verge of the anus, either in strong

ternals, the surgeon will gain little ground. This is a circumstance which ought always to be attended to; and it is in some measure owing to a want of due regard to it, that we find such a farrago of different dressings; such remedies for fungous, for foul; for callous sores, &c. These diseased appearances and circumstances most frequently proceeded from disorders in the habit; and if that be not corrected, the same appearances will continue, notwithstanding all our escharotics, deturgents, digestives, incarnatives, &c. &c. &c.

In cold, debauched, lax, or sluggish habits, if the patient be not warmed by aromatics, and braced by the bark, these cases will often prove tedious and troublesome.

From the induration of the parts about, from the face and colour of the sore, and from the discoloured gleety discharge; callosity, latent mischief, and undiscovered sinuses, will be suspected; whereas, in truth, neither one nor the other are the cause of such diseased appearances. The administration of proper remedies will, most commonly, in a few days, produce such an alteration, as the whole art of surgery could not (by mere externals) bring about in as many weeks, if at all. Many and many a sore of this kind have I seen brought into the hospital, which has had all these disagreeable appearances, which has long and fruitlessly been treated with all the variety of externals, and which a decoction of the bark and rad. serpentaria has, in a very short time, put into such a condition as to want only dry lint.

exercise,

exercise, in the retention of loose stools, or the expulsion of hard ones, are so great, that I have known several people who have daily and sincerely wished for their uncut fistulæ again: and who, either from pain or uncleanness, or both, have been rendered truly unhappy.

In short, I can venture to assert from many years experience on a great variety of subjects, that when the disease is curable by chirurgic art, the method which I have proposed, will, with more ease, expedition, and certainty, attain that end, than the method of extirpation; and that without producing any of those very disagreeable circumstances which M. Le Drân has so justly described.

And for the truth of this assertion I appeal to all those (many in number) who have for these ten or twelve years past attended St. Bartholomew's hospital.

S E C T. VI.

HITHERTO I have considered the disease either as an abscess, from which the matter has been let out by an incision, made by a surgeon; or from which the contents have been discharged by one single orifice, formed by the bursting of the skin somewhere about the fundament.—I am now to take notice of it, when instead of one such opening, there are several.

This state of the case generally happens when the quantity of matter collected has been large, the inflammation of considerable extent, the adipose membrane very floughy, and the skin worn very thin before it burst.—It is, indeed, a circumstance of no real consequence at all; but from being misunderstood, or not properly attended to, is made one of additional terror to the patient, and additional alarm to the inexperienced practitioner: for it is taught, and frequently believed, that each of these orifices is an outlet from, or leads to a distinct sinus, or hollow; whereas in truth, the case is most commonly quite otherwise; all these
openings

openings are only so many distinct burblings of the skin covering the matter; and do all, be they few or many, lead and open immediately into the one single cavity of the abscess: they neither indicate, nor lead to, nor are caused by, distinct sinuses; nor would the appearance of twenty of them (if possible) necessarily imply more than one general hollow.

If this account be a true one, it will follow, that the chirurgic treatment of this kind of case ought to be very little, if at all, different from that of the preceding; and that all that can be necessary to be done, must be to divide each of these orifices in such manner as to make one cavity of the whole. This the probe knife will easily and expeditiously do; and when that is done, if the sore, or more properly its edges, should make a very ragged, uneven appearance, the removal of a small portion of such irregular angular parts will answer all the purposes of making room for the application of dressings, and for producing a smooth even cicatrix after the sore shall be healed.

When a considerable quantity of matter has been recently let out, and the internal parts are not only in a crude, undigested state, but have not yet had time to collapse, and approach each other; the inside of such cavity will appear large; and if a probe be pushed with any degree of force, it will pass in more than one direction into the cellular membrane, by the side of the rectum. But let not the unexperienced practitioner be alarmed at this, and immediately fancy that there are so many distinct sinuses; neither let him, if he be of a more hardy disposition, go to work immediately with his director, knife, or scissors: let him enlarge the external wound by making his incision freely; let him lay all the separate orifices open into that cavity; let him divide the intestine lengthwise by means of his finger in ano; let him dress lightly and easily; let him pay proper attention to the habit of the patient; and wait, and see what a few days, under such conduct, will produce. By this he will frequently find, that the large cavity of the abscess will become small and clean; that the induration round about will gradually lessen;

lessen; that the probe will not pass in that manner into the cellular membrane; and consequently, that his fears of a multiplicity of sinuses were groundless. On the contrary, if the sore be crammed or dressed with irritating or escharotic medicines, all the appearances will be different: the hardness will increase, the lips of the wound will be inverted, the cavity of the sore will remain large, crude, and foul; the discharge will be thin, gleety, and discoloured; the patient will be uneasy and feverish: and, if no new cavities are formed by the irritation of parts, and confinement of matter, yet the original one will have no opportunity of contracting itself; and may, very possibly, become truly fistulous.

I will not say, that there never is more than one sinus running along the side of the intestine (I mean on the same side); but I will venture to assert, that for one instance in which the case is really so, forty are supposed and talked of. Distinct and separate openings in the skin, from the same cavity or sinus, are common; but perfectly distinct sinuses, running along the intestine on the

same side, are very far from being so; they are very uncommon.

I should be sorry to have such a misconstruction put upon what I have said, as to have it supposed that I made light of a disease which every body knows is sometimes attended with very troublesome circumstances; or that I make pretension to any particular secret method of treating it; or that I think myself more capable of conducting it than the generality of practitioners: as none of these are true, I should be sorry to have them imputed to me. I do allow (what is undoubtedly true) that this disease, in some constitutions, and under some circumstances, will engage the attention, and exercise the judgment, of the best and most able practitioner; but on the other hand I must repeat, that a great deal of the trouble which it is sometimes attended with, does not arise from the disease itself, but from misconception, and improper treatment.

I have freely, and without reserve, related that method of treatment which I have found to be most successful; nor do I know any applications which are at all
5 specific,

specific, or more proper for this kind of sore than for all others, in parts of the same structure: the most simple, and they which give the least pain, are the best: neither these, nor mere dry lint, should ever be introduced in larger quantity than can be admitted and borne with ease; that the sore may not be distended, but a fair opportunity given to nature to contract it gradually.

This every practitioner may be capable of executing, since it consists more in abstaining from doing mischief, than in doing any thing which may require particular judgment or dexterity. It is true, that the method which I have proposed will considerably lessen the chirurgic apparatus of instruments and dressings; but it will be attended with success, and produce that which every patient has a right to expect from his surgeon;—a firm cure, in a short space of time, and with the least possible fatigue.

It sometimes happens, that the matter of an abscess, formed juxta anum, instead

of making its way out through the skin, externally near the verge of the anus, or in the buttock, pierces through the intestine only. This is what is called a blind internal fistula: *Fistule borgne interne*.

In this case, after the discharge has been made, the greater part of the tumefaction subsides, and the patient becomes easier. If this does not produce a cure, which sometimes, though very seldom, happens, some small degree of induration generally remains in the place where the original tumor was; upon pressure on this hardness, a small discharge of matter is frequently made per anum; and sometimes the expulsion of air from the cavity of the abscess into that of the intestine may very palpably be felt, and clearly heard; the stools, particularly if hard, and requiring force to be expelled, are sometimes smeared with matter; and although the patient, by the bursting of the abscess, is relieved from the acute pain which the collection occasioned, yet he is seldom perfectly free from a dull kind of uneasiness, especially if he sits for any considerable length of time in one posture. The real difference between
this

this kind of case, and that in which there is an external opening (with regard to method of cure) is very immaterial; for an external opening must be made, and then all difference ceases. In this, as in the former, no cure can reasonably be expected, until the cavity of the abscess, and that of the rectum, are made one; and the only difference is, that in the one case we have an orifice at, or near the verge of the anus, by which we are immediately enabled to perform that necessary operation; in the other we must make one.

Some of the best of the modern writers have, I think, represented this state of the disease in such manner as to make it seem to labour under difficulties, which I cannot say that I ever found it really did; and have thereby thrown the appearance of obscurity and trouble, on what is generally clear and easy.

In Mr. De la Faye's very excellent notes on Dionis, is the following passage.
" Lorsque les fistules n'ont pas d'ouverture
" externe, & que rien ne designe le lieu où
" il faut faire l'operation, il y a deux
" moyens de le decouvrir. Le premier est

“ de l'invention de feu Mr. Thibaut, qui
 “ portoit le doigt index dans l'anus, & le
 “ recourboit; ensuite, en le tirant un peu a
 “ lui, pour ramener a l'exterieur le foyer
 “ de la matiere, tandis qu'il pressoit avec
 “ un autre doigt les environs du fonde-
 “ ment, la douleur qu' il caufoit au malade
 “ marquoit le lieu ou il falloit faire l'inci-
 “ sion pour rendre la fistule complete. Le
 “ second est de Mr. Petit, qui met dans
 “ l'anus pendant vingt-quatre heures une
 “ tente, qui touchant l'ouverture de la fis-
 “ tule, empeche le pus de s'ecouler, & le
 “ ramasse en assez grande quantite pour
 “ faire a l'exterieur une tumeur, qu' indi-
 “ que le lieu ou il faut faire l'operation.”

— ‘ When fistulæ have no external opening,
 ‘ and there is no mark, whereby to distin-
 ‘ guish the place where the operation ought
 ‘ to be performed, there are two methods
 ‘ of discovering it; the first is that of the
 ‘ late Mr. Thibaut, who put his fore-finger
 ‘ into the rectum; and curving it, endea-
 ‘ voured to bring the *foyer*, (that is, the
 ‘ hollow which furnishes the matter,) nearer
 ‘ to the external part of the fundament;
 ‘ while, with his other finger, he pressed
 ‘ all

‘ all the parts round about: the pain which
‘ he, by these means, gave to the patient,
‘ marked out the place where the incision
‘ ought to be made, in order to render the
‘ fistula complete. The second method is
‘ that of Mr. Petit: He put into the anus,
‘ for the space of twenty-four hours, a
‘ tent; which, by stopping up the orifice
‘ of the fistula, hindered the matter from
‘ running out into the cavity of the gut;
‘ and forced it to be collected in such quan-
‘ tity as to form an external tumefaction;
‘ sufficient to indicate the place where the
‘ operation ought to be performed.’

The former of these, as far as it depends on that single circumstance, that the point where the pain is felt, is the exact place where the opening ought to be made, is, by no means, to be depended upon: the latter method is operose, troublesome, and, in general, very insufficient for the purpose. If the orifice, through which the matter has made its way, lies high in the intestine, a tent cannot be introduced so as to press against it sufficiently, unless it be so long, and so large, as to occupy the whole cavity of the gut. How fatiguing, and how difficult,

cult, the retention of this, for twenty-four hours, must be to many people, is easy to imagine: if the orifice be near to the fundament, in the lower part of the intestine, the possibility of closing it may be somewhat greater; but the inconvenience must be nearly the same, as well as the uncertainty.

In short, not to enter farther into this totally unnecessary kind of practice, I would advise the man, who thinks to try it, to consider the stricture made by the contraction of the verge of the anus; the expansion of the cavity of the gut, immediately above that stricture: the great dilatability of the membranes of the intestine, and the uneven, wrinkled state in which it must necessarily be; and then to reflect, how very unlikely it is, that he should, without filling the whole cavity, stop or block up a small breach, whose exact situation he cannot know or learn.

It is true, that by discharge of the matter into the cavity of the intestine, the fluctuation of it within the abscess is no more to be felt; the tension ceases; the tumor, in great measure, subsides; and, consequently, all these indications of its situation disappear:
but

but I do not remember ever to have seen a single case of this kind, in which there was not in the buttock, or near to the verge of the anus, either a remaining discolouration of the skin, or a hardness, or something by which the finger of a careful, judicious examiner, could clearly and certainly find where the disease was. Each of the circumstances just mentioned do as certainly point out where the hollow leading to the sinus is, as the fluctuation of the matter did before the cavity burst; and a knife, or lancet, plunged into this, (provided it be pushed deep enough) will never fail to enter the said hollow. When this is done, the case becomes what is commonly called complete, and must be treated accordingly.

S E C T. VII.

I COME now to that state of the disease, which may truly and properly be called fistulous. This is generally defined, sinus angustus, callosus, profundus; acri sanie diffluens; or, as Dionis translates it, “ Un ul-
“ cere

“ cere profond, & caverneux, dont l’entrée
“ est étroite, & le fond plus large; avec issue
“ d’un pus acre & virulent; & accompagné
“ de callosités.”

Various causes may produce or concur in producing such a state of the parts concerned as will constitute a fistula, in the proper sense of the word; that is, a deep, hollow sore, or sinus, all parts of which are so hardened, or so diseased, as to be absolutely incapable of being healed, while in that state; and from which a frequent or daily discharge is made, of a thin, discoloured sanies, or fluid.

These I shall take the liberty of dividing into two classes, viz. those which are the effect of neglect, distempered habit, or of bad management, and which may be called, without any great impropriety, local diseases; and those which are the consequence of disorders, whose origin and seat is not in the immediate sinus or fistula, but in parts more or less distant, and which, therefore, are not local complaints.

The natures and characters of these are obviously different by description; but they are still more so in their most frequent event; the former being generally curable by proper treatment,

treatment, the latter frequently not so by any means whatever.

Under the former I reckon all such cases as were originally mere collections of matter within the coats of the intestine rectum, or in the cellular membrane surrounding the said gut; but which, by being long neglected, grossly managed, or by happening in habits which were disordered, and for which disorders no proper remedies were administered, suffer such alteration, and get into such state, as to deserve the appellation of fistulæ.

Under the latter, are comprised all those cases in which the disease has its origin and first state in the higher and more distant parts of the pelvis, about the os sacrum, lower vertebræ of the loins, and parts adjacent thereto; and are either strumous, or the consequence of long and much distempered habits; or the effect of, or combined with, other distempers, local or general; such as a diseased neck of the bladder, or prostrate gland, or urethra; the lues venerea, cancers, &c. &c.

Among the very low people, who are brought into hospitals, we frequently meet with cases, of the former kind; cases which, at first, were mere simple abscesses; but which
from

from uncleanness, from intemperance, negligence, and distempered constitutions, become such kind of sores, as may be called fistulous.

In these the art of surgery is undoubtedly, in some measure, and at some time, necessary; but it very seldom is the first or principal fountain from whence relief is to be sought: the general effects of intemperance, debauchery, and diseases of the habit, are first to be corrected and removed, before surgery can with propriety, or with reasonable prospect of advantage, be made use of. If the patient be infected with the lues venerea, that must first be cured; if he be anasarcaous, or leucophlegmatic, that indisposition must be corrected; if he be feverish, that heat must be calmed; and if he labour under any of the general ill effects arising from foul skin, dirty clothing, unclean and unwholesome lodging, &c. producing pallid countenance, undue secretions, loss of appetite, œdematous legs, intermitting fevers, &c. the state of blood which always accompanies such complaints must be amended before surgery can be administered to any good purpose. If knife, caustic, or whatever other external means are thought proper to be used, be applied before

7 such

such general evils have been corrected, they will do little or no good; and may do much mischief. On the contrary, when the lues is corrected; when the patient is cool, and gets good sleep; when the secretion of urine is so re-established, the general absorbent faculty so restored, and the solids so braced, that the legs cease to swell; and the patient recovers his natural appetite and complexion; we find the local disease, instead of standing still, has almost always made great advances towards being cured, by being altered in all the principal circumstances of induration, crudity, gleet, &c. Whatever chirurgic operation or treatment may now be necessary, will, in all probability, succeed immediately; whereas, all our attempts before such care do and must prove fruitless.

The surgery required in these cases consists in laying open and dividing the sinus, or sinuses, in such manner that there may be no possible lodgment for matter, and that such cavities may be fairly opened lengthwise into that of the intestine rectum: if the internal parts of these hollows are hard, and do not yield good matter, which is sometimes the case, more especially where attempts have
been

been made to cure by injecting astringent liquors, such parts should be lightly scratched or scarified with the point of a knife or lancet, but not dressed with escharotics; and if, either from the multiplicity of external orifices, or from the loose, flabby, hardened, or inverted state of the lips and edges of the wound near to the fundament, it seems very improbable that they can be got into such a state as to heal smooth and even, such portion of them should be cut off as may just serve that purpose. The dressings should be soft, easy, and light; and the whole intent of them to produce such suppuration as may soften the parts, and may bring them into a state fit for healing.

If a loose, fungous kind of flesh has taken possession of the inside of the sinus, (a thing much talked of, and very seldom met with) a slight touch of the lunar caustic will reduce it sooner, and with better effect on the sore, than any other escharotic whatever.

The method and medicines by which the habit of the patient was corrected, must be continued (at least in some degree) through the whole cure; and all those excesses and
irregularities,

irregularities, which may have contributed to injure it, must be avoided.

By these means, cases which at first have a most disagreeable and formidable aspect, are frequently brought into such state, as to give very little trouble in the healing.

More trouble must be supposed to attend this kind of case, than does a mere simple, recent abscess; and more time will necessarily be required to bring the parts into a kindly state; but under proper conduct, they will in general be found to do well, without any of those operations which mankind have such dread of; and which are in general taught and practised.

If the bad state of the sore arises merely from the improper manner in which it may have been treated; I mean, from its having been crammed, irritated, and eroded; the method of obtaining relief is so obvious, as hardly to need recital.

A patient who has been so treated, has generally some degree of fever; has a pulse which is too hard, and too quick; is thirsty, and does not get his due quantity of natural rest. A sore which has been so dressed, has generally a considerable degree of inflamma-

tory hardness round about; the lips and edges of it are tumid, full, inflamed, and sometimes inverted; the whole verge of the anus is swollen; the hæmorrhoidal vessels are loaded; the discharge from the fore is large, thin, and discoloured; and all the lower part of the rectum participates of the inflammatory irritation, producing pain, bearing-down, tenesmus, &c. *Contraria contrariis* is never more true than in this instance: the painful, uneasy state of the fore, and of the rectum, is the great cause of all the mischief, both general and particular; and the first intention must be to alter that. All escharotics must be thrown out, and disused; and in lieu of them, a soft digestive should be substituted, in such manner as not to cause any distention, or to give any uneasiness from quantity; over which a poultice should be applied: these dressings should be renewed twice a day; and the patient should be enjoined absolute rest. At the same time, attention should be paid to the general disturbance, which the former treatment may have created. Blood should be drawn off from the sanguine; the feverish heat should be calmed by proper medicines; the languid and low
should

should be assisted with the bark and cordials; and ease in the part must, at all events, be obtained by the injection of anodyne glysters of starch and opium.

If the sinus has not yet been laid open, and the bad state of parts is occasioned by the introduction of tents imbued with escharotics, or by the injection of astringent liquors, (the one for the destruction of callosity, the other for the drying up gleet and humidity) no operation of any kind should be attempted until both the patient and the parts are easy, cool, and quiet: cataplasm, glysters, rest, and proper medicines must procure this: and when that is accomplished, the operation of dividing the sinus, and (if necessary) of removing a small portion of the ragged edges, may be executed, and will, in all probability, be attended with success. On the contrary, if such operation be performed while the parts are in a state of inflammation, the pain will be great, the sore for several days very troublesome, and the cure prolonged or retarded, instead of being expedited.

Particular individual cases may require little particularities in the treatment; but

what I have drawn is the general outline. In this, as in most parts of physic and surgery, the first and great object is, to know what the intention is which ought to be pursued; when that is clear and determined, a man of any degree of knowledge will seldom be at a loss for materials wherewith to execute it.

Abscesses, and collections of diseased fluids are frequently formed about the lumbal vertebræ, under the psoas muscle, and near to the os sacrum; in which cases, the said bones are sometimes carious, or otherwise diseased. These sometimes form sinuses, which run down by the side of the rectum, and burst near to the fundament.

The discharges from these are generally large, foetid, thin, and sharp; it is therefore no wonder that the sinuses by which they are made, together with the orifices thereof, become hard and callous; that is, truly fistulous; but it must be obvious to every one who will consider it, that the chirurgic treatment of these sores and sinuses can be of very little consequence towards curing the diseases from whence they arise: their seat is generally out of the reach
I either

either of our instruments, or our applications; and their nature is not frequently found to be capable of being altered by medicine. However that may be, certain it is, that what advantage a person in such circumstances is at all likely to receive, is not derivable from surgery; but must be from medicine, or from more powerful nature.

Persons who have long laboured under what is commonly called a cachectic habit have sometimes large collections of matter formed in the cellular membrane within the cavity of the pelvis, which, like the preceding, from sinuses, and burst their way out near the anus. These sinuses, from the nature of the discharge, from the depth of the seat of the disease, and from the length of time which the drain continues, do almost necessarily become fistulous.—Such collections do sometimes prove salutary crises; though much more frequently they hasten the patient's dissolution: but be the event which it may, although the fore is certainly fistulous, yet can the art of surgery do very little, if any material service. If the event be good, the crisis must be far advanced,

and very nearly determined, before any operation, or even dressing (except what is superficial, and merely for the purpose of cleanliness can be of any use; and if the discharge proves too much for the strength of the patient, it is pretty clear, that neither the art of surgery, nor indeed any other, can avail him.

On the other hand, if it so happens, that nature is so powerful, that, by means of this drain, she can free the habit from its former diseased state; or if, by the help of medicine, such alteration can be brought about, the fistula will not prove very troublesome: for the same alteration, at least in some degree, will be found to have been made in that; and if it be not brought thereby absolutely into a healing state, yet it will be found to be so much altered in its principal circumstances, that the common method, already laid down, will be fully sufficient for the completion of a cure.

We are, by authors, very frequently advised not to be too hasty in the cure of these cases; as the continuance of the discharge may prove beneficial to the patient. That these discharges are now and then of great
advantage,

advantage, is beyond all doubt; but very happily for such patients, the healing or not healing these sores is very seldom within our determination. We may, indeed, (and I fear often do) by indiscreet conduct, prevent a sore from healing, when it is nature's intention that it should be healed; but when she finds herself relieved, or benefited by a discharge of this kind, she will generally continue it, in spite of our most officious endeavours to the contrary.

Cancers and cancerous sores are sometimes formed in the cavity, or in the neighbourhood of the rectum, and fundament: in which they make most terrible havock, and afford most melancholy spectacles.

As I do not know what will cure a cancer, I leave the discussion of this to those who say that they do; most sincerely wishing, that it was in my power to say, that I had, once in my life, known them to have fulfilled their promise.

Fistulous sores, sinuses, and induration about the anus, which are consequences of diseases of the neck of the bladder, and

urethra, called *fistulæ* in *perinæo*, require separate and particular consideration.

In these, the external openings, with the sinuses leading from them into the cellular membrane, are the least part of the complaint: the stricture in the urethra, the induration of the whole neck of the bladder, the hardened, fungous, enlarged, or ulcerated state of the prostate gland, the diseases of the *verumontanum*, of the *vesiculæ feminales*, and *vasa deferentia*, are the great and principal objects of consideration.

A very serious consideration they certainly make. Great and manifold are the miseries which are derived to mankind from these causes; and much more diligent inquiry do they deserve, than they have yet met with; but as they do not immediately belong to my present subject, I must omit, or, at least, to another opportunity defer, entering into them.

OBSERVATIONS

ON

HÆMORRHOIDAL EXCRESCENCES;

BY

THE EDITOR.

OBSERVATIONS, &c.

IN the account of Mr. POTT's life I have asserted that he had been remarkably successful in the treatment of those painful excrescences which are produced from within the verge of the anus, and the removal of which when large, firm, and indurated, has generally been thought dangerous and unadvisable. Mr. POTT had entertained a design of writing on this subject, to lessen the apprehension of practitioners, by pointing out in what cases an operation may be safely performed. The method which he employed was not new, it has been described and recommended by writers, and has been frequently practised on piles in a small and flaccid state, but he often asserted he knew no one who would attempt to apply it to the advanced state of the complaint; as far as my experience leads me, I believe his assertion strictly founded, or if it be practised by some, it is by no means generally

generally adopted. During the last ten years of Mr. POTT's life he had many opportunities of performing this operation; most of the patients I attended with him, and found that several of them had previously consulted other eminent surgeons from whom they had not met with a proposition for a radical cure; in others the disease had been absolutely abandoned as an incurable cancer. For these reasons Mr. POTT thought it a subject well worthy of the consideration of practitioners. It is certainly a disease which, whoever labours under, must lead a miserable existence, consequently every attempt towards the relief of it must be proportionably valuable. I therefore conceive that a few hints on this subject will not be an improper appendix to the foregoing treatise, or unacceptable to the reader. As I profess only to give a sketch of the disease, and such an account of our author's treatment of it, as I can collect from memory, a perfect history will not be expected from me. I can only undertake to point out its leading characters, and those circumstances in the operation which chiefly deserve attention; and sincerely regret that they

they were not laid before the public in Mr. POTT's superior manner.

The intestinum rectum is well known to be subject to a variety of diseases, from various causes; from its structure, use, and office, and from its situation, which renders it liable to be pressed upon by the whole power of the abdominal muscles: it is also sensibly affected by its connection with other parts in its vicinity, and it often affects them.

The diseases we are to treat of are tumors originally formed within the rectum, and produced by a distention of the hæmorrhoidal vessels: in this state they are considered as inward piles, and give little trouble or uneasiness. In more or less time the tumors being increased in size are forced down in going to stool, and return back when the abdominal muscles cease to act; soon after, grown larger, they return with difficulty, and require a considerable time and pressure before they will return: by degrees they are more irritable and painful to the touch; at length they become indurated and stationary, and are not to be reduced by any means, but are extremely inconvenient, and painful in the greatest degree. In some cases, while they are
in.

in this situation, the sphincter ani binds so tight round their basis as to produce a mortification of them, and thus effects a natural cure, analogous to that which we recommend.

Mr. POTT observed, that it might afford matter of surprize to find that such tumors on their first production contain nothing but coagulated blood; perhaps this blood, at first either stagnating in the hæmorrhoidal vessels, or possibly effused under the internal coat of the rectum, may, in time, become organised; this organic mass being irritated by frequent and severe pressure, may enlarge and become firm and fleshy excrescences: in this state they frequently furnish a disagreeable sanies, or bloody discharge, and acquire an irritated, malignant appearance.

There are other tumors produced in this part from various causes; as an enlargement of the sebaceous glands, at the verge of the anus, and excrescences arising from a venereal or cancerous disposition in the habit, which in general are easily distinguishable from those here described.

The venereal verrucæ or excrescences are a frequent symptom of that poison; and are
well

well known to practitioners. They differ in every respect from the tumors we treat of: the basis of them is generally broad; they do not arise from the intestine, nor particularly from the verge of the anus, but indiscriminately from thence and from the skin in the neighbourhood. They are rather flat than elongated: they may be tender to the touch, but, unless when exasperated by stimulating applications, are seldom productive of pain. In females, the same species of excrescence frequently surrounds the anus, covers the external parts of the labia pudenda and the internal of the thighs, seeming to be propagated in moist parts by contact: by neglect they sometimes spread over the groins and pubis, making a large fungous mass, separable into distinct excrescences. It is useless to attempt the removal of them, until the poison be eradicated from the constitution, when, though sometimes obstinate and liable to reproduction, they may generally be made to shrink away by proper topical applications.

Those which arise from a cancer within the rectum, and being thrust out appear externally, are more liable to be confounded with the complaint we mean to describe, as they

they resemble each other in many circumstances: both are hard, swelled, and painful; both at times furnish a disagreeable sanious discharge; in both cases the patients have the same leaden pallid countenance. There are however some leading features of distinction which may be noticed; in the cancerous protrusions the basis is generally harder, more incompressible, and broader; and has its origin higher up in the rectum, commonly occupying the whole circumference of the intestine, which so straitens the passage that the fæces are expelled with difficulty, and are compressed into a flat or angular form. In the cancerous affection of the rectum, the parts sometimes feel soft like a rotten substance. The pain of the cancerous, or malignant fungi, is unremitting; whether they are external, or returned within the sphincter, the patient is never at perfect ease, but complains of shooting pains in the region of the loins.

The pain attending the hæmorrhoidal tumors is sometimes great while they are external; but when this arises from the stricture of the sphincter, if they can be returned within the rectum, it soon ceases. When they have been long protruded in

an irreturnable state, by degrees they become accommodated to frequent pressure and unless irritated by an access of inflammation to the constitution from exercise, wine, improper food, or other causes, they are commonly not so painful as at their first exit.

In both species of tumor anodyne injections give ease, but less in the cancerous; the return of pain also in them is more immediate, more violent and lancinating. In the present state of medical knowledge we are confined to a description of this dreadful disease, any surgical attempt to remove it would but aggravate the mischief.

A protrusion of the rectum is also not an uncommon complaint in persons of a debilitated constitution: Mr. POTT observed, that people who have accustomed themselves to aloetic purges, are particularly subject to this complaint; and he remarked that it is sometimes only a symptom of a generally relaxed state of the internal coat of the intestine, through the whole extent of the canal; in which case he always recommended the drinking lime-water, which, joined with the bark, he had found to be very materially serviceable. He observed that this complaint

might often be entirely removed by anodyne glysters; but he did not approve of astringent applications to the part.

Fortunately the *procidencia ani* is not easily confounded with the complaint we are now considering. The two diseases are perfectly distinct; the one is a protrusion of the gut, the other is an excrescence or enlargement of the vessels at the verge of the anus, protruded in many distinct portions or lobes; of a dark, dusky-red colour; and in every respect different from the *procidencia* abovementioned.

When by long continuance and repeated irritations these tumors are formed into large unreturnable excrescences, nothing but the hand of surgery can give relief; this is the state of the complaint, in which I think the practice of Mr. POTT deserves our attention. However large and formidable the appearance of the excrescences, if there was no symptom of cancerous malignity, nor any contra-indication in the constitution or habit of the patient, Mr. POTT always recommended the removal of them. Having seen profuse and dangerous hæmorrhages from the use of the knife in these cases, particularly in one instance,

stance, in which the patient nearly lost his life, he always preferred the ligature. The following was his method of performing the operation:—When the patient, by straining, as if going to stool, had forced out the tumors as far as could be done, he laid hold of one of each tumor or lobe, separately, with a blunt double hook, and drew it gently outwards until he discovered the basis of it, which is usually smaller and less indurated than the part which has been exposed to friction; then giving the hook to be held by an assistant, he slipped a ligature, previously tied in a loose knot, as near to the basis as possible: when he was satisfied that the ligature comprehended the whole lobe he drew it tight, taking particular care to discriminate between the natural skin and the tumor: none of the former, however elongated, should ever be included in the ligature; for, when the tumor is removed, this will corrugate and retire to its proper place, while the loss of any considerable portion of it, by contracting and straitning the parts, would create an inconvenience severely felt in riding, or any other exercise, and also in the natural functions of those parts. In the same manner

Mr. POTT proceeded to treat the remainder of the lobes, one after another, taking care not to include more in each ligature than was necessary; if the basis was very broad, a circumstance which seldom happened, he passed a needle armed with a double ligature through the middle, and tied them on each side.

In this manner I have seen him treat successfully several cases, in which the tumors had increased to a considerable magnitude, particularly two, where they were at least from eight to ten inches in circumference; they had been of long standing and were exquisitely sensible. The patients had long been in a state of hopeless misery, almost wholly excluded from society, debarred from all exercise, and not able to sit but in a chaise percée; the appearances in both these cases were very similar; from the turgidity, at first sight, uniform, but on examination they were divided into distinct tumors; which Mr. POTT carefully separated and treated as has been described. The operation succeeded perfectly well in both; and from that time neither of the patients has experienced the least inconvenience, or return of the disease. I never
saw

saw any kind of mischief or alarming symptom from this method of extirpating this disease, except in one unfavourable subject, who had been liable to complaints about the neck of his bladder; in him the operation brought on a return of his old maladies, stranguery and suppression of urine, which induced a necessity of using the catheter for some time; but this subsided, and left him as soon as the tumors were separated. I do not mention this case as a prohibition to the operation, but to shew that it is right to attend carefully to the parts contiguous, which are liable to be affected by the necessary inflammation; that, if the patient has been subject to complaints about the bladder, proper care may be taken to obviate and prevent them. Except this, I know of no harm which ever does, or can arise from the operation. Particular care should be taken to draw the ligature sufficiently tight; if it be at all too slack, some vessels remaining pervious, the circulation will be continued in some part, by which the duration of the pain, and the existence of the tumors will be protracted. In general, the parts losing their nourishment die and drop off in four or five days. I need not mention that a proper an-

tiphlogistic regimen both before and after the operation should be observed. An anodyne injection thrown up the rectum half an hour previous to the operation will be efficacious in lessening the subsequent uneasiness; a soft poultice will be found to be the best topical application.

The following cases were obligingly communicated to me by Mr. Harvey, who attended them with Mr. POTT, and took notes of them at the time; they will greatly tend to elucidate the nature of the complaint, and the excellence of the remedy, which I have endeavoured to describe.

C A S E I.

A GENTLEMAN of about fifty years of age, and of a nervous irritable constitution, had been during many years of a costive habit of body, and generally had recourse to aloetic pills to procure stools. About two years before Mr. POTT saw him he first perceived a pain and swelling within the rectum, which was very troublesome whenever he attempted to discharge his fæces; until at length the difficulty of evacuating them became so great, that

that he was obliged to inject oil, and to sit over the steam of warm water, before he could obtain any natural relief. He was obliged to be very strict in his diet, as any food which was apt to occasion hardened fæces most certainly gave him excruciating pain. The frequent strainings had made a prolapsus of the gut habitual; neither could he get rid of the fæces, unless the excrescences were first protruded beyond the anus. In this situation he travelled from Cork to London for Mr. POTT's advice. I should have observed that the surgeons he had before consulted were led to believe, from the usual remedies for the piles not having benefited him, and from the unalterable hardness of the tumors, that they were cancerous. When I first saw him, he was much weakened by the constant irritation, and probably by the continual ichorous discharge, which was so profuse as to wet through many folds of linen in the course of a few hours. Mr. POTT immediately proposed the operation for removing them; and in this case, as in the others, he preferred doing it by ligature rather than by the knife or scissors: round the anus there hung a loose flaccid skin, which Mr.

POTT supposed had been a double fold of the inner coat of the gut protruded, and which had lost its natural texture and colour. The first excrescence which appeared seemed large enough to have filled the circumference of the intestine; it had a broader basis than I have usually since seen, therefore Mr. POTT passed a double ligature through; and tying them on each side left it to slough off, which it did in a few days; afterwards two smaller ones came forward, were held by the hook, and surrounded by the ligature; they also came away in the poultices, and the Gentleman returned home in the course of three weeks perfectly cured.

The progress and symptoms of the other cases were nearly the same, therefore I need not be minute in describing them.

C A S E II.

Mrs.—had been many years dreadfully afflicted with this disease, and the surgeons of the town where she resided pronounced it absolutely to be a cancer; her pain prevented her from walking or sitting upright, and she lay on a sofa patiently expecting a painful death.

death. Mr. POTT saw her during one of his excursions to Worcester, she followed him to London, and the operation was performed so successfully, that not only the excrescences were removed, but her health and spirits, which were before wretchedly reduced, were again perfectly restored. The excrescence in this case was large, rugged, and unequal in its surface; it had an ulcerous appearance, and very well authorised the opinion which the surgeons in the country had given of it.

C A S E III.

A GENTLEMAN between thirty and forty came from Carlisle on account of this complaint to Mr. POTT. I have seldom seen a man more debilitated or nervous; the least surprize made him hysterical: he had laboured under the disease about a year; and, from his peculiar irritability, it was accompanied with spasms at the neck of the bladder, pain in the uræthra, and a discharge from the penis, as well as from the rectum, which was also protruded. Two excrescences were removed, and afterwards two lesser ones, not having their support, came forward and were

likewise taken away.—This Gentleman suffered more pain at, and after the operation, than in any instance I have seen; he had a small fever, and a great tendency to stranguery; with the exhibition of anodyne and proper antiphlogistic remedies he recovered, the protruded intestine returned, the irritation at the neck of the bladder left him, and he gained a very improved state of health.

I have seen many other cases, but do not recollect any material difference in them from those I have already mentioned.

CHIRURGICAL OBSERVATIONS

RELATIVE TO THE

C A T A R A C T,

T H E

POLYPUS OF THE NOSE,

T H E

CANCER OF THE SCROTUM,

T H E

DIFFERENT KINDS OF RUPTURES,

A N D T H E

MORTIFICATION OF THE TOES AND FEET.

P R E F A C E.*

THE FIRST of the following tracts contains some remarks on a disease, to which persons of every rank and condition are liable; and by which they are rendered truly unhappy.

From an unpardonable indolence, or an equally blamable timidity, it has been too much the custom in this country, to leave the management of this complaint to pretenders and itinerants, some of whom have been, in some degree, acquainted with the organ and its diseases, others most grossly ignorant of both; consequently the benefits, and the misfortunes, which have attended their undertakings have been various. With these I have nothing to do; but cannot help taking the liberty to observe, that until the profession in general have made themselves capable of being essentially serviceable to mankind in this point, they must not be surprized that the unfortunate and unknowing give credit to fair promises.

What I shall, in the following pages, advance, regarding the cataract, is not the consequence of a mere desire to write, but arises from a conviction founded on frequently-repeated experience, that we have, within a few years past, reprobated an operation which, in proper hands, is capable of producing great good; and have substituted in its place another, which though perhaps right and useful, in some particular instances, has, by being too generally practised, occasioned much mischief.

* N. B. This Preface was, through negligence, omitted in the 4to. edition.

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I should be sorry to have what I say misunderstood: I do by no means intend either to praise or blame indiscriminately: I think that each operation has its merit: but I also think, and know, that we have almost laid aside one, for reasons which are not founded in truth; and that we have rather hastily patronised and practised the other, without duly attending to its very frequent ill consequences.

The SECOND tract regards a disease which is mentioned, indeed, in most books of surgery, but in general not in such manner as to enable a young practitioner to form a proper judgment of it. By some, it is passed over so slightly, that an ignorant reader might be induced to suppose that it could never occasion much trouble or hazard: by others, it is regarded merely as requiring a chirurgic operation, to the performance of which their whole attention is paid; while, both by the one and the other, the material circumstances of the disease are overlooked, and no rules laid down whereby to determine on the propriety or impropriety of any chirurgic attempt whatever.

The subject of the THIRD has not (at least to my knowledge) been publicly noticed.

All who have the care of hospitals in this town know, that the chimney-sweeper's cancer is as real, and as peculiar a distemper as any of the morbi artificum; and a very melancholy consideration it is to those who are necessarily in the way of being liable to it.

The FOURTH is the result of a custom which I have many years practised; that of making memoranda of whatever appeared to me to be either unusual in itself, or attended with any singularity of circumstances.

The FIFTH is on a disease, which has so generally foiled all the attempts of art, as to be by many reckoned among those which are out of its reach. This truth, though sometimes

times undeniable, is always acknowledged with reluctance; and reasons, good or bad, are therefore always sought for, and given for our disappointment. In the present case, a defect of circulation, an ossification of vessels, a want or depravity of the nervous fluid, with some other conjectures, equally ingenious, whimsical and groundless, are offered. Whatever may be the original cause of the mortification of the toes and feet, certain it is, that acute pain is one of its first and most constant symptoms; and as certain it is, that while such pain continues, no stop is, or can be put to the progress of the distemper. The ideas of defective circulation, want of sensibility in the nerves, of malignity, putrefaction, &c. have, in my opinion, misled us from a proper consideration of this destructive malady, and have put us on a plan of practice, which, as far as it relates to externals, seems to me to be opposite to that which ought to be pursued, and to render the disease more intractable, and more certainly fatal. Instead of cooling, we endeavour to excite heat; and when the parts which yet retain life and sensation, are in such state as to be most liable to, and susceptible of irritation, we apply to them hot, pungent oils, balsams, and tinctures, and wrap them up in cataplasms made of such ingredients as are more calculated to answer the purpose of stimulating, than of appeasing.

In short, I cannot help thinking that we have, in this case, done what our forefathers did in that of wounds made by gun-shot; that is, we have formed conjectures concerning the nature of the distemper which are not true, and then have built a practice on these erroneous guesses. The strange notions which our ancestors entertained concerning the effects of fire, the poison of gun-powder, the malignity, and the putrefactive disposition of gun-shot wounds, led them to overlook the obvious and necessary effects of a high degree of contusion and laceration, and
induced

induced them to have recourse to such means, as though perfectly agreeable to their theory, necessarily increased the pain, the inflammation, and the irritation which they should have endeavoured to soothe and appease.

What the consequence of their treatment too frequently was, themselves have told us ; what that of attending more to the true nature of the case, and of acting from such consideration has been, our soldiers and sailors have of late years happily experienced.

Perhaps some of the cases which I have related in the **FOURTH** tract, may not appear to others to be so worthy of notice as they did to me. Some of them, I cannot help thinking, may deserve the attention of the younger part of the profession, to whose information I wish to contribute.

Diseases have, it is true, in general, a sort of regularity and order, a series of causes and events, by which they are known and distinguished, yet we do now and then meet with such odd irregularities, such strange and unusual consequences, as puzzle and alarm even the soundest judgment, and the longest experience ; and unless these be noted, the history of distempers will be imperfect.

From writers of systems and institutes, (of surgery at least) such kind of knowledge is not to be expected. They are most frequently mere compilers, and do little more than copy each other. The information which they convey, is at best but superficial, and much more calculated to enable man to talk, than either to judge or to act. It must be from a careful attention to the cases of individuals, and from an observation of diseases, in their irregular and infrequent forms, as well as their more customary ones, that true and extensive judgment can be acquired.

If therefore a faithful relation of these less-usual circumstances and appearances, both in the living and in the dead, was more frequently made, it might be productive of no
small

small improvement: it would not be confined to the adding a few anomalous, eccentric cases to our books, tending to excite our admiration only, but might be made to serve a much more valuable purpose; it might guard us against too hastily determining in cases of real, or of seeming obscurity, and might prevent us, now and then, from supposing things to be incapable of being accounted for, merely because we have not yet learned how to account for them; it might perhaps lessen our faith in general doctrines and theories, but it would render us more attentive to facts, and thereby furnish us with a much more useful kind of knowledge.

Perhaps also, upon a more close and frequent examination, we might find, that some of these very cases are neither so rare, nor so intractable as we have hitherto believed them to be. But be that as it may, certain it is, that from such inquiry, we should at least get one kind of information—we should be furnished with good and satisfactory reasons, why our best attempts so frequently fail: I say satisfactory, because I cannot help thinking, that next to the pleasure of being able to relieve the distresses of mankind, is the satisfaction of knowing that it was not in our power so to do.

Many and great are the improvements which the chirurgic art has received within these last fifty years; and much thanks are due to those who have contributed to them: but when we reflect how much still remains to be done, it should rather excite our industry than inflame our vanity.

Our fathers thought themselves a great deal nearer to perfection than we have found them to be; and I am much mistaken, if our successors do not, in more instances than one, wonder both at our inattention and our ignorance. Notwithstanding all our late real improvements, there is

still ample room to exercise all the powers of many succeeding artists, and to furnish them with large opportunity of acquiring honour to themselves, and of doing much praise-worthy service to mankind: the art is still defective, and the words of Seneca are still, in some degree, as true as when he wrote them; "Multum adhuc restat operis, multumque restabit; nec ulli nato post mille secula præcludetur occasio aliquid adhuc adjiciendi."

R E M A R K S

ON THE

C A T A R A C T.

NOTWITHSTANDING the variety of operations and processes which, for the relief or cure of this disease, are to be found in almost all the books of our forefathers, yet it is very certain that, until within these last fifty years, neither the state, nature, nor seat of it were truly known; at least not to the practitioners of surgery.

Wild and various were the conjectures concerning it: it was by some said to be a distemper of the vitreous humour; by others of the aqueous: by some it was thought to be a condensation of earthy particles; by others a membranous film: it was said by

some to be anterior, by others, posterior to the pupil; it was often confounded with the gutta serena, and sometimes even with an opacity of the cornea.

Accident, one great source of many an useful discovery both in physick and surgery, first proved it to be a distemper of the corpus crystallinum; to be in general absolutely confined to it, and to consist of a greater or less degree of opacity: and now, as is usual in all such cases, we are convinced, that all the attempts, and all the operations which ever were made, or practised to any good purpose, either for its relief or its cure, could be successful only as they affected that body.

From the knowledge of its seat, and of one of the principal circumstances of its nature, we have been enabled to direct our attempts more rationally, and to act with a greater degree of precision and satisfaction; but still from all I have been able to collect, either from books or from practitioners, there are some material circumstances relative to the disease, which are not rightly, at least not generally understood; some remains of the old doctrine still continue to influence

fluence both our opinion and practice; some things are taken for granted which are by no means true; and practical inferences are drawn from others, which are not admissible. Whether an attempt to set some of these in a clearer light, will or ought to be attended with any alteration in the treatment of the distemper, must be left to others to determine: I shall content myself with relating, as briefly as I can, some few particulars which appear to me to deserve attention.

One general opinion among our ancestors was, that every cataract had its seasons; was at one time immature or unripe, at another mature or ripe; and that the term unripe, necessarily implied a soft, that of ripe, a hard, or firm state of the crystalline.

The opinion was a necessary consequence of the theory then most frequently embraced, and was therefore generally credited; and, as very often happens with regard to pre-conceived notions, it was thought to be confirmed by facts.

This doctrine has, it is true, been contradicted by some of our best modern practitioners; but still it not only remains the opinion of many, but has a very considerable

share in determining the preference supposed to be due to one method of operating over another.

The terms imply, and are generally understood to mean, that every cataract is at first soft, through its whole substance; and that by degrees, in more or less time, it becomes hard and firm, or at least harder and firmer than the natural crystalline: which latter circumstance is by no means true, either necessarily or even generally. I will not say that it never is: but I can venture to affirm, that it most frequently is not. Some of our remote ancestors borrowed their ideas on this subject from the kernals of fruits, to which they have indeed compared the cataract: but the notions of ripe and unripe, have remained with many who were aware of the exceeding absurdity of the comparison.

If this was a merely speculative point, it would be a matter of very little importance; but as a practical inference is drawn from it, that the early, or supposed unripe state is an improper one for an operation, and that therefore a patient should wait for a later or ripe one, it becomes a matter of consider-

able consequence to such person whether he shall or shall not continue blind all that very uncertain space of time. Neither is this all, material as it may seem: for the same doctrine implies, that the first degree or appearance of obscurity, however soft the crystalline may then be, will certainly be followed by an induration of it; or in other words, that the crystalline is first rendered soft merely and only to become hard afterwards: that the same first or soft state is not proper for an operation, because it would necessarily render it unsuccessful; and that an increased degree of opacity and obscurity, may in general be regarded as marks of increased firmness: not one of which is true.

The natural, sound, transparent crystalline, is very far from being uniform in its consistence through its whole substance: its external part is much softer, and more gelatinous than its internal; which therefore, although equally transparent, may be said to form a kind of nucleus, and is always of much firmer texture^a. From this sound and
natural

^a If this known difference of consistence between the external and internal parts of the crystalline was duly attended

natural state, it is capable of several morbid alterations: it is capable of being dissolved, or of becoming fluid, without losing any thing of its transparency^b: it is capable of being dissolved into an apparently uniform fluid of a gelatinous kind of consistence, but which will be more or less opake through the whole; it sometimes becomes opake while it undergoes a partial kind of dissolution, which leaves or renders the different parts of it of very different degrees of consistence; and it now and then, though very

to, it would solve many of the appearances in cataracts which, for want of such attention, are either not accounted for, or very absurdly. Among other phænomena, it would account for the very different colour which the different parts of the same cataract frequently bear; and which has furnished the wildest conjectures.

^b It has been supposed, by very good anatomists, that the human crystalline has sometimes, between its surface and its capsula, a small quantity of fine pellucid lymph; and consequently that there is no immediate connection between that body and its investing membrane. In many beasts, as well as fishes; this is known to be the case; but whether it be so in the human eye, is not very easy to be known during life; but that this is the case, sometimes from distemper, I have no doubt: I mean, that the whole crystalline is dissolved into a fluid, still preserving its transparency. This kind of alteration, as I take it, forms what is by some called one species of the gutta serena; by others, the black cataract.

rarely,

rarely, becomes opake through its whole substance, and yet preserves its natural degree of firmness^c.

Whenever the crystalline becomes softer than it should be, or tends towards such state, it is certainly distempered, and unfit for perfect vision, whether it be opake or not, or whatever its degree of opacity may be: but whoever supposes that such softened and opake crystalline will necessarily, or even frequently, acquire firmness, or become hard by time, is exceedingly mistaken. Opacity, though now and then accompanied by what is called induration, is no proof of it, nor of any tendency towards it; so far from it, that some of the most dissolved or fluid cataracts, and which have been so for the greatest length of time, are found full as opake as the most firm ones.

Whoever has an opportunity of observing this distemper, and will embrace it, will find that cataracts which have in a length of time gone through all those alterations of

^c From this variety of alteration, which the crystalline is capable of undergoing, proceeds that variety of appearance which our ancestors have called so many different kinds of cataracts.

colour,

colour, which are said to indicate unripeness, and ripeness, are often as perfectly soft as they ever could have been; and on the other hand, will sometimes find them what is called firm or hard very soon after the first appearance of obscurity. That is, to speak more truly, as well as more properly, the former having been at first dissolved, have remained in the same state of dissolution; and the latter, having been at first only partially softened, have been found in the same unequal state, with a firm nucleus^d.

When, therefore, I make use of the term induration, I do it in compliance with the common method of speaking; and not because I think that it conveys, by any means, an adequate idea of the real alteration made in the state of the crystalline: far from it; it neither conveys an idea of the nature, nor

^d For this there is no possibility of accounting rationally, but by having recourse to the natural state of the crystalline, with regard to the different consistence of its different parts. This will account for the alterations to which it is liable from time, accident, or distemper: this will show why there is no uniformly and universally hard cataract; why, in all of them, the softest part is always on the surface; why, even in the hardest, the central part is always the most firm; and why the external and internal parts of the same cataract, are so often so different from each other in colour.

of the extent of such alteration: with regard to the former, the term induration can with propriety be used only in opposition to a perfect or general distempered dissolution; by much the majority of what are called firm cataracts, being much less firm than the same crystalline was before such alteration: and with regard to the latter circumstance, the extent of the mischief, it is subject to the greatest degree of uncertainty; being seldom or never an induration of the whole body, but most frequently a firmish kind of nucleus, of greater or less size, contained within more or less of a gelatinous, or softer kind of substance: so that the nucleus is called firm only in opposition to what envelopes it.

In short, if we would think and speak of this matter as it really is (or as it appears to me to be) instead of using the terms soft and hard in opposition to each other, and as implying different effects either of time or of distemper on the crystalline, we should say, that dissolution or softening, in some degree, is by much the most common effect: that except in some few instances, where that body retains its natural firmness while it loses its transparency, the most frequent consequence

consequence is a softening of its texture, either partial or total: and that seven times in nine, when the crystalline becomes opake, and tends towards forming a cataract, it is more or less softened; sometimes equally through its whole substance, sometimes partially, having a greater or less portion left undissolved.

This undissolved part, which always makes what is called a hard cataract, may indeed be called firm in opposition to the softer, by which it is surrounded; but even this very part is hardly, if ever, so firm as the centre of the natural and sound crystalline.

I beg the reader's pardon for having been somewhat prolix, but the subject did not appear to me to have been properly attended to.

It would be exceedingly pleasant, as well as advantageous, if we could, previous to an operation, know the true state of an opake crystalline: it would enable a surgeon to determine his mode of operating with more precision, and to explain what his intention by such method was: it would give satisfaction to himself as well as to standers-by; and make that appear to be judicious and rational, which, under our present uncertainty,

tainty, has often the appearance of being accidental, and done at random.

It is agreed by all, who have carefully considered this subject, and who are ingenuous enough to speak the truth, that the mere colour of a cataract furnishes no proof, to be by any means depended upon, relative to its consistence; and that they which appear greyish, or bluish, or like whey, are sometimes found to be firm and resistant, while the more equally white ones are perfectly soft.

I do not mean to assert, but merely to propose, to the consideration of such as may have leisure and opportunity, whether when the opaque crystalline is quite dissolved, so as to form a soft cataract, it is not, at the same time, somewhat enlarged; and whether when such dissolution does not take place, and what is called a hard cataract is formed, the crystalline is not, in some degree, lessened or shrunk.

Among the circumstances which have concurred to incline me to be of this opinion, is this; that when the pupil has been observed to be always in a state of dilatation, even when exposed to a strong light, and although capable of motion, yet
never

never to contract in the usual manner, I have most commonly found the cataract to have been soft; and, on the contrary, when the pupil has been capable of full and perfect contraction over the cataract, I think that it has most commonly proved firm; and this difference I have more than once observed in the different eyes of the same person. The greater degree of facility with which the firm cataract quits its place, and passes through the pupil upon the division of the cornea, does not lessen the probability of this opinion. I could also wish that they who have opportunity would inquire, whether the cataracts which have been found perfectly soft, have not, in general, become gradually more and more opake by very slow degrees, and, in a length of time, the patient feeling little or no pain; and whether the firm ones do not, in general, become hastily opake; and are not preceded, or accompanied by severe, and deeply-seated pain in the head, particularly in the hinder part of it.

WHAT

WHAT has hitherto been said, as it principally regards the theory of the distemper, may perhaps be thought to be of little importance; but when the influence which these opinions may produce, and indeed have produced on practice, is considered, it will be found to be matter of some consequence: while they are confined to a surgeon's imagination only, they are not of much consideration; but when they are to regulate his judgment, and direct his hand, they become rather serious.

Since the operation of extracting the cataract, instead of depressing it, has been introduced into practice, and made a kind of fashion, it has been the humour to exaggerate all the objections to which the latter has been said to be liable; and that in such a manner, that they who have not had frequent opportunities of seeing business of this kind fall, without reflection, into the prevailing opinion; seem to wonder, that the operation of couching should ever have had any success at all; and at the same time are, from the accounts given, inclined to believe, that the extraction is always safe, easy, and successful.

The

The objections which are made against the operation of couching, at least those which have any semblance of truth or force, are reducible to four.

The first is, that if the cataract be perfectly soft, the operation will not be successful, from the impossibility of accomplishing the proposed end of it.

The second is, that if it be of the mixt kind, partly soft, and partly hard, it will also most probably fail of success, not only from the impracticability of depressing the softer parts, but also because the more firm ones will either elude the point of the needle, and remaining in the posterior chamber, still form a cataract; or getting through the pupil into the anterior chamber, will there bring on pain and inflammation, and induce a necessity of dividing the cornea for their discharge.

The third is, that if the cataract be of the firm, solid kind, and therefore capable of being depressed, yet, in whatever part of the eye it shall happen to be placed, it will there remain undissolved, solid, opake; and although removed from the pupil, yet prove some hindrance to perfect vision.

The

The fourth objection is, that however successfully the depression may have been accomplished, yet that the operation will necessarily occasion such violation and derangement of the internal parts of the eye, as must cause very considerable mischief.

These objections, if they have any real weight, are of equal force in every species of cataract; and therefore are the more worthy our attention: since, if they be founded on truth, they render the operation unfit for practice; but if they be not, misrepresentation and fashion should never induce us to lay aside any means which have been, and still may be beneficial to mankind.

The first and second I can from frequently repeated experience affirm not to be true. I mean that the operation of couching will not necessarily, or even generally be unsuccessful, merely because the cataract shall happen to be either totally or partially soft: on the contrary, although these states will prevent perfect depression, yet, by the judicious use of the needle, a recovery of sight, the true end and aim of the operation, will be as certainly and as perfectly obtained, as

it would have been either by depression or by extraction in the same subject; and that generally without any of the many and great inconveniences which most frequently attend the latter operation.

The third objection is specious, and therefore very generally credited. That it never happens I will not take upon me to say, because so many have asserted it; some of whom, one would hope, had some kind of authority for what they have so positively affirmed. But on the other hand, when we consider how few there are who have written from their own examination and experience, and how many who have taken for granted, and copied, what others have said before them, our faith will not be quite implicit. Certain I am, from repeated experience and examination, that this opinion has not that foundation in truth which it is generally supposed to have; and that it has been embraced and propagated hastily, and without sufficient inquiry and experiment.

As this supposed indissolubility of the opaque crystalline is not only so principal an objection to the operation of couching, even when it is capable of being perfectly de-
pressed

pressed, as to be said to overbalance all the evils, many and great as they are, which frequently attend the extraction; but is also supposed to be the cause of the failure of success, when the depression of the softer kinds of cataracts is attempted; it may be worth a little serious examination.

I should be sorry to have it thought, that I had any predilection or partiality to one method of operating more than to another; or that I would wish to give to either any preference, but what its superior excellence or utility might justly demand; but, on the other hand, I cannot possibly pay regard to any authority, however otherwise respectable, when it contradicts what I know to be fact. Both operations are equally practicable by any man who has a hand and an eye, and is capable of performing either; but it has of late years been so much the humour to depreciate the one, and to extol the other, that it becomes necessary to examine the supposed merits of one, and demerits of the other, and to see whether they be drawn from premises which are true: if one is to be deemed universally preferable to the other, let the circumstances,

stances, on which preference is to be founded, be drawn from fact, and not from fiction; let them be fairly and faithfully inquired into, and let such inquiry determine.

In order to assist in one part of this inquiry, I beg leave to lay before the reader a few experiments and observations which I have made; or I believe I shall more properly say, have repeated; they having been often made and observed, but not properly inforced or applied^c.

When the opake crystalline is in a state of dissolution, or the cataract is what is called perfectly soft, if the capsula of it be freely wounded by the couching-needle, the contents will immediately issue forth, and mixing with the aqueous humour, will render it more or less turbid: sometimes so much as to conceal the point of the needle and the iris of the eye from the operator.

This is a circumstance which has been observed by most operators, and has been

^c When I say experiments and observations which I have made and repeated, I would wish the reader to understand, that I have made them carefully, for the purpose; and so repeatedly, as to be satisfied of their *general* truth.

mentioned by many writers; but it has always been regarded and mentioned as an unlucky one, and as being in some degree preventative of success; which is so far from being the fact, that as far as relates to this circumstance merely, all the benefit which can be derived from the most successful depression, or extraction, most frequently attends it: as I have often and often seen.

The aqueous humour, however turbid it may become, will, in a very short space of time, be again perfectly clear; and if no disorder of the capsula of the crystalline, previous, or consequential, prevents, the rays of light^f will pass without obstruction

^f The capsula, or investing membrane of the crystalline, has very often an unsuspected share in the apparent opacity of that body; and is thereby the cause of disappointments and inconveniences during some operations, and after others. This is a circumstance which, undoubtedly, has been mentioned; but has not been by any means sufficiently attended to. The capsula, is capable of becoming white and opaque, while its contents shall be clear and transparent; it becomes so sometimes by being wounded by the couching-needle, used either for the depression of a firm cataract, or for the letting out a soft one; and it will not infrequently be found so, after the operation of extraction, when no instrument has touched it.

tion through the pupil, and the patient will be restored to as perfect vision as could have followed the most successful operation of

Whenever this happens, it is an unpleasant circumstance; but still more so if it continues for any length of time; I have seen it disappear in a week; I have seen it continue two, three, or four, and at last totally disappear; and I have seen it continue so long as to require the re-application of the instrument. When it appears after the depression of a firm crystalline; or after an unsuccessful attempt to depress one which has proved not firm enough, it may easily be, and generally is, mistaken for a portion of the cataract risen again; but from which an attentive observer will always be able to distinguish it: but when such opacity follows what is called a successful extraction, in which the cornea only was divided, the capsula not touched by the instrument, and the cataract came away entire through the pupil, the case is self-evident.

This may truly and properly be called, as it has been by Monsieur Houin, Haller, and others, a membranous cataract, as it consists merely of the membranous capsula of the crystalline.

Writers of credit have mentioned, that a cataract may be formed almost instantaneously, by external violence. There is no doubt of the fact; I have seen it four different times.

Whether this be not an affection of the capsula merely, I much doubt; or rather am much inclined to suspect, that it most frequently is. In three of the four, which have fallen under my observation, the opacity has gradually disappeared after the inflammation, in consequence of the blow, had gone off; and the eyes were left as clear as ever. A consequence which, I think, may be accounted for, by supposing the opacity in the capsula only; but cannot, if we suppose it to be in the corpus crystallinum itself.

either, or of any kind in the same subject, and under the same circumstances.

When the cataract is of the mixed kind, partly soft, and partly hard, the immediate effects of the needle are somewhat different; the soft part of the cataract being less in quantity, as well as generally less soft, the aqueous humour is less turbid; and the firm part or parts of the crystalline will be very visible. In this state, these firmer parts will very frequently elude the attempts made by the needle to depress them; and will therefore remain in the posterior chamber.

This is also reckoned among the unfortunate circumstances; but although to an operator not aware of, nor acquainted with the consequence, it may have all the appearance of being so, yet it really is not; the true end and aim of the operation not being thereby necessarily frustrated. In this case, if the needle has been so used as to have wounded the capsula very slightly, it will sometimes happen, that the firm part of the crystalline will remain in its nidus, and still form a cataract, which may possibly require a future or re-application of the instrument.

This is the worst that can happen, and hap-

pens indeed very seldom; for if the capsula be properly wounded, so that the aqueous humour be freely let in, the firm part or parts, though very visible at first, and preventing the passage of light through the pupil, will in due time, in some longer, in others shorter, gradually dissolve, and at last totally disappear; leaving the eye as fair, as clear, and as fit for vision as any the most successful operation could have rendered it; of which I have seen and exhibited many proofs^g.

In

^g The space of time which the accomplishment of such dissolution will require, is very uncertain: I have seen the eye perfectly fair and clear within a week after the operation; and I have seen it require two months for the dissolution of all the opaque parts.

This has been observed by many, even before the nature and seat of a cataract were truly known; among the rest, by Read, who, speaking of one of his own operations, says:

“ At the end of nine days I visited my patient, and found both her and her friends highly discontented; so that I met with nothing but invectives, &c.

“ Within a fortnight after, when art and nature having performed their mutual operations, and all the cloudy vapours and rags of the cataract were consumed and dispersed, her eyes grew clear, and her sight became perfect, &c.

“ I would have every patient, though after a cataract be couched, and nine or ten days expired, he see little, or nothing

In order to render the fact still more clear, I have sometimes, when I have found the cataract to be of the mixed kind, not attempted depression: but have contented myself with a free laceration of the capsula; and having turned the needle round and round between my finger and thumb, within the body of the crystalline, have left all the parts in their natural situation: in which cases I have hardly ever known them fail of dissolving so entirely as not to leave the smallest vestige of a cataract^h. In a few instances, where

“ thing at all, or that he cannot endure the light for a month
 “ or two, or even for a quarter of a year, as I have known
 “ many, not to be discouraged; for their sight may, notwithstanding, become well and perfect, and continue so ever after.
 “ On the other hand, some come to good and perfect sight
 “ within a fortnight or three weeks.” Sir W. READ, p. 7.

^h The operation of extraction, though said in general to remove the crystalline intire, and calculated for such purpose, does not always do so; but when the cataract is of the mixed kind, does not infrequently leave some of the firmer part behind, which one of the warmest patrons of the operation allows does dissolve and disappear. “ Extrahendum statim post
 “ operationem est quicquid remanet opaci ope Cochlearis
 “ Davielis. Hoc quidem facile fit aliquando, aliquando vero
 “ et imprimis ubi membrana crystallina non satis lacerata
 “ cochlear in ipsam capsulam lentis, ubi hæret illud opacum
 “ corpusculum non admittit, tantis difficultatibus circumfutum
 “ est, ut quicquid etiam moliaris extrahere illud non possis, et
 “ ne

where I have had fair opportunity, I have pushed the firm part through the pupil into the anterior chamber, where it has always gradually and perfectly dissolved and disappeared, not producing pain or trouble, while such dissolution was accomplishing.

What I have advanced not being matter of opinion, but matter of fact capable of

ne oculus nimis irrites, desistere ab opere, et relinquere illud
in oculo cogaris.

Neque tamen tunc etiam spe optimi successus destitu-

imur. Sæpe enim observavi, opacum illud remanens, sive

fit mucus, sive frustulum lentis crystallinæ, sensim, et sponte,

citius vel tardius, penitus disparuisse. An resorbetur mucus

lacteus, an frustula lentis crystallinæ liquecant sensim, et re-

forbentur, an in fundum oculi sensim, se præcipitant, dubitum

est. Utrumque tamen fieri credo. Quoties lactea materia

post depressam cataractam totum humorem aqueum opaci-

tate suâ et albedine inficiens sensim penitus evanuit? Quoties

pus in oculo hærens vel sanguis insigni quantitate in illum

effusus, sensim resorptus evanuit? Quoties frustula lentis crys-

tallinæ, post depressionem cataractæ, in pupillâ relicta? &c.

immo liquecere aliquando et resorberi hæc frustula me

ipsum experientia docuit, &c.

RICHTER de Cataractæ Extract.

I should be sorry to have it inferred from hence, that I

would recommend the passing the opaque crystalline through

the pupil: far from it; I think it wrong, as it is apt to pro-

duce one of the most frequent inconveniences attending the

operation of extraction, an irregularity of the pupil. I only

meant to prove the fact of dissolution of the cataract in such

situation; and that it will not cause that pain and trouble

to which it is so positively said to do.

being

being inquired into, and proved by any who will take the trouble of so doing, I do not desire any man to give credit to it upon my mere assertion. But if, upon repeated trial and inquiry, it should be found to be as generally and as frequently true by others, as it has been by me, may it not fairly be inferred, that whatever other reasons there may be for preferring the operation of extraction to that of depression, or the use of the knife to that of the needle, yet those drawn from the supposed indissolubility of the crystalline are by no means conclusive; on the contrary, are very inconclusive. But this is by no means all; for if what I alledged be true, some other consequences, not a little interesting to the afflicted, will necessarily follow.

First, if the soft cataract will, when its capsula is properly wounded, mix with the aqueous humour, and undergo such a perfect dissolution, and absorption, as to leave the eye fair, clear, and fit for vision, and which I have so often proved, that I have not the smallest doubt about it; it will then follow that the softness of a cataract is so far from being an unlucky circumstance, that it is rather a fortunate one; as it enables the patient
to

to receive more early assistance; and that from an operation attended with less pain, and a less violation of parts, than a firmer one would necessarily require.

Secondly, When the cataract is of the mixed kind, and which therefore frequently foils all the attempts toward depression, the firmer parts may very safely be left for dissolution; and vision be thereby restored.

And, Thirdly, when the cataract shall happen to be of the firmer kind, and during an unsuccessful attempt to depress, get through the pupil behind the cornea, disappointment will be so far from being the consequence, that if no other injury has been done to the parts within, than what such attempt necessarily required, the displaced crystalline will gradually dissolve and disappear; and the patient will see as well as any operation could have enabled him to have done.

I may perhaps be told, that what I have hitherto alledged only tends to prove, that both the soft and mixed cataract, when mixed with the aqueous humour by the laceration of the capsula, will dissolve; but that the firm one will not, and therefore must remain,

remain, wherever placed, a solid opaque body.

To which I answer, in the first place, that if what has been said relative to the soft, and to the mixed cataract be true, I cannot help thinking it to be very advantageous. In the second place, that the opinion concerning the indissolubility of the displaced crystalline has, I think, been taken up, and propagated, without proper authority from inquiry and experiment, fairly and deliberately made, and stands merely on a few accidental observations, which are by no means satisfactory. And, in the third place, that, as far as my own inquiry and observation go, I am satisfied, that it does dissolve wherever placed, provided it be perfectly freed from its attachment in its natural nidus^k.

^k While I was preparing these sheets for the press, an old man was taken into St. Bartholemew's, who had a cataract in one eye, and had, by some accident, lost the sight of the other. I couched him; the cataract was as firm as I had ever felt any, and went down as easily, as immediately, and as intirely as possible. Three days after the operation, he was seized with so bad a small-pox, that he died on the eleventh, and the next day I took his eye home and examined it. The cataract lay just below and behind the uvea, towards the external canthus. It was become small, irregular, and manifestly in a state of dissolution.

Both

Both men and books talk of firm, hard, intire, uniform cataracts, as if they were as much so as what are found in the eye of a boiled fish. Whence they borrow this idea, I know not, unless it be from boiled fish; certain I am that it is not from nature.

Let any man examine the most firm, opake crySTALLINE, taken from the eye of a living person, and which, from its firmness, passed out through the pupil and the divided cornea with the greatest facility; he will generally find it to be in figure, size, and consistence, exceedingly unlike either to the natural and sound crySTALLINE, or to one rendered opake by heat; and he will also find, that such alteration of shape and size is owing to a partial dissolution of its surface, particularly its anterior one; in short, if he will examine it carefully, and without prejudice, he will see, that what he calls an intire, firm cataract, is most frequently little more than the nucleus of an opake crySTALLINE.

If a man might be allowed to argue in a case of this kind, a priori, he might very reasonably ask, why should the corpus crySTALLINUM, which, although opake, is, while in its natural situation, and enveloped in its proper

proper capsula, so prone to dissolve, as we must know that it is, be supposed to be as prone to induration, immediately upon being removed from its place.

The most strenuous advocates for extraction cannot help allowing, that a portion or portions of a firm cataract, which they have been obliged to leave behind in the operation, dissolve and disappear in due time: it is, indeed, a fact not to be contradicted: but the same people say, that the intire cataract will not. What idea they, who argue thus, have of an intire cataract, I know not; they may possibly conceive it to be depressed, still remaining enveloped in a firm capsula, and therefore to remain indissoluble: but if they would reflect on the extreme fineness of the capsular membrane; on the necessary action of the couching-needle, when applied to it; and on the different consistence of the different parts of every, even the most opaque and firm cataract, they must see that it is a portion only of any cataract, however firm, which can in general be depressed.

One of the arguments, made use of by some of the late writers, in favour of extraction, is, that as the crystalline must be destroyed,

stroyed, it had better be removed. Now how can it be said to be destroyed, if it be only displaced, and remain indissoluble? Let them take which side of this argument they please, they must be wrong: for, if the disease crystalline remain, though depressed, a solid body within the eye, how can it be said to be destroyed? and, on the other hand, if it be destroyed in the operation of couching, it must be by dissolution; and therefore cannot remain.

The last objection to the operation of couching is, that it must necessarily derange and violate the internal parts of the eye, particularly the vitreous humour.

If what I have said on the subject of the perfectly soft cataract, as well as on that which is partially so, be true, the greatest part, if not the whole of this objection, will cease, with regard to these two: and it will be principally, if not totally, confined to that which is called firm and hard, and which, by its resistance to the instrument, will admit of being placed in the inferior part of the eye.

In the performance of this operation, the needle may certainly be so used, as to do considerable

considerable mischief; but then it must be from the unskilfulness or awkwardness of the operator; and which may be the case of every operation in surgery. But is an operation justly chargeable with ills, deducible merely from its having been ill executed? I hope not.

I am very sensible, that much mischief has been done by attempts to couch; but, in the first place, they have almost always been the consequence of want of judgment, or want of dexterity in the operator; and, in the next place, even under the most exaggerated representations, they are by no means equal to what has frequently been the consequence of attempts to extract.

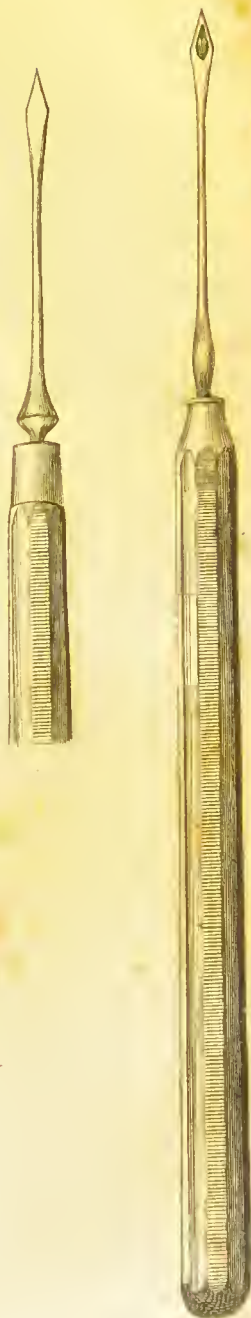
It may possibly be supposed, that I have conceived a prejudice against the operation of extraction. Of this I am not conscious. I have sought and embraced every opportunity which a public hospital, and many years practice have afforded me of operating in both ways, and of comparing the consequences. I have seen many of the patients of others, not only of the gentlemen of the profession, but of most of the itinerant operators; and am thereby convinced, that the

greatest part of the objections to the operation of couching are invalid ; have not been the result of unprejudiced experience, or a candid regard for truth ; that only the fair and prosperous side of the question, regarding the operation of extraction, has been industriously exhibited, while its manifold failures and ill-consequences have been as industriously concealed ; and that upon a fair detail and comparison of all the advantages and disadvantages, conveniences and inconveniences attending each, the preference will be found justly due to the needle.

Inconveniences and disappointments they are both too liable to : I heartily wish they were not : but, from the most cool and candid attention to fact, I am convinced, that the former are much greater, and the latter much more frequent, in the operation of extraction, than in that of depression, executed with the same degree of judgment.

The couching needle which is commonly in use has on the face which is applied to the cataract, a flat, highly-polished surface, which makes it, as I have experienced, liable to slip, if it meets with any little resistance when in contact with the surface of the cataract; or if the chrySTALLINE breaks, it does not readily attach the small portions of it. As the other side, near the point, is necessarily convex, to give a proper degree of strength to the instrument, I conceived that an advantage might be drawn from its form to obviate the inconvenience; I therefore got some needles made with a small cavity on the flat side, the opposite convexity allowing sufficient depth for it, and the surface of this cavity was left rough and unpolished. I have used them many times during several years, and I am of opinion that this alteration gives a considerable advantage in laying hold of that small slippery body the lens, or any fragment of it, and in conducting it to whatever part of the eye we think proper; by a turn of the instrument it is immediately disengaged, and neither the entrance nor passage of the needle is in any degree impeded by it.

The annexed figures shew the difference between the two needles —E.





SOME FEW
R E M A R K S
ON THE
POLYPUS OF THE NOSE.

IN these, as in the preceding remarks on the cataract, I do not mean to enter into a circumstantial history of the disease, but merely to offer a few practical observations on such parts of the doctrine concerning it, as appear to me to have been either inadvertently or erroneously delivered.

The polypus is a complaint which is always troublesome, frequently painful, and sometimes hazardous; the first of these is, the necessary consequence of the situation of the distemper; the second arises from its peculiar nature in the individual; and the last, sometimes from its particular nature, and sometimes from the manner in which it may have been treated.

Writers tell us, and very truly, that it is a disease of the *membrana pituitaria narium*; that it has different seats, origins, and attachments; that it springs from the ethmoid bone, from the *ossa spongiosa*, from the *septum narium*, and even from the *antra maxillaria*: that it is hard or soft, pale or deep red, or sometimes purple; that it is equal in its surface or unequal, large or small, moveable or fixed, single or multiform, painful or indolent; that it makes its appearance forward in the nostrils, or backwards in the fauces behind the uvula; and that it may be strumous, venereal, or cancerous. When they have given us these general, and merely definitive descriptions, they immediately proceed to the chirurgic treatment, or method of cure; which, they tell us, is either by extraction, or the use of escharotics, to which some have added ligature: they then give a general description of the manner of using the forceps, of applying escharotics, or of passing the string round it; and having provided styptics for the suppression of hæmorrhage, they leave every thing else to the reader's imagination, and to the practitioner's choice and judgment.

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From these accounts, those who have not had much opportunity of seeing for themselves, and who are thereby under a sort of necessity of forming their opinions, and regulating their practice by books, are induced to believe that, except in some few particular instances, where the distemper is palpably cancerous, all others are equally objects of chirurgic treatment; and therefore, that if, in the first instance, they can lay hold of the polypus with the forceps, and in the second, can provide against the hæmorrhage, which they have heard so much of, they shall have nothing else to do or to fear.

To me I must acknowledge the matter appears very differently. I cannot help thinking, that there are many polypi, which, although they are neither scirrhus nor cancerous, are very unfit for any chirurgic treatment whatever; and that from several circumstances: which circumstances may act in different manners, though equally prohibitory: they may forbid an attempt merely from the impossibility of its being successful; or they may forbid it, because it is more likely to do harm than good;

more likely to exasperate the disease than cure it; to increase the misfortune, than to lessen it.

The distinctive marks of the distemper, as laid down by writers, are, in general, just and true; but they only teach a young practitioner to know the disease when he may see it; they give him no warning of the mischief he may incur by attacking it unguardedly; nor inform him of a very serious truth, viz. that this is a sort of case, in which when real mischief has been done, it is sometimes without remedy.

As far as my experience and observation go, the polypi which begin with, or are preceded by, considerable or frequent pain in the forehead and upper part of the nose, and which, as soon as they can be seen, are either highly red, or of a dark purple colour; they, which from the time of their being first noticed, have never been observed to be sometimes bigger, sometimes less, but have constantly rather increased; they in which the common actions of coughing, sneezing, and blowing the nose, give pain, or produce a very disagreeable sensation in the nostril and forehead; they

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which, when within reach, are painful to the touch, or which, upon being slightly touched, are apt to bleed; they which seem to be fixed and not moveable by the action of blowing the nose, or of deriving the air through the affected nostril only (where the polypus is only on one side;) they which are incompressibly hard, and which, when pressed, occasion pain in the corner of the eye, and in the forehead, and which, if they shed any thing, shed blood; they which, by adhesion, occupy a very considerable space, and seem to consist of a thickening, or of an enlargement of all the membrane covering the septum narium; they which sometimes shed an ichorous, offensive, discoloured discharge; and they, round whose lower part, within the nose, a probe cannot easily and freely be passed, and that to some height, ought not to be attempted, at least by the forceps, nor indeed by any other means with which I have the good fortune to be acquainted; and this for reasons obviously deducible from the nature and circumstances of the polypus. On the one hand, the very large extent and quantity of adhesion will render extirpation impracticable, even if the

disease could be comprehended within the forceps, which it very frequently cannot; and on the other, the malign nature of the distemper may render all partial removal, all unsuccessful attacks on it, and indeed any degree of irritation, productive of the most disagreeable consequences.

But the polypi which are of a palish or greyish light brown colour, or look like a membrane just going to be sloughy; they which are seldom or never painful, nor become so upon being pressed; they which have appeared to be at one time larger, at another less, as the air has happened to be moist or dry; they which ascend and descend freely by the action of respiration through the nose; they which the patient can make to descend by stopping the nostril which is free, or even most free, and then deriving the air through that which the polypus possesses; they which when pressed give no pain, easily yield to such pressure, become flat thereby, and distil a clear lymph; and they, round whose lower and visible part a probe can easily, and that to some height, be passed, are fair and fit for extraction; the polypus, in these circumstances,

stances, frequently coming away intire; or if it does not, yet it is removeable without pain, hæmorrhage, or hazard of any kind; the second of which circumstances I can with strict truth affirm, I never yet met with when the disease was at all fit for the operation^a.

Of the benign kind of polypus, fit for extraction, there are two sorts, whose principal difference from each other consists in their different origin or attachment: that which is most freely moveable within the nostril, upon forcible respiration; which has been found to be most liable to change of size, at different times and seasons; that

^a They, who are affected with this sort of polypus, generally complain, and that for a considerable time before the polypus becomes visible, that they are perpetually catching cold, more especially in moist or wet weather; though they seldom have any other symptoms of such colds than the stoppage in and discharge from the nose; they also always complain, that these colds always deprive them of the sense of smelling. In moist weather, or in a sudden change from dry to wet, they are also subject to frequent fits of sneezing; and when the relaxed membrane is most affected to very considerable discharge of thin mucus, from the affected nostril. Nor do I remember ever to have seen a polypus of this kind, which was not immediately subject to a change, upon the sudden alteration of the atmosphere, from dry to moist; that is, they always become longer, fall down lower, and look fuller and paler, and generally deprive the patient of all power of smelling.

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which has increased the most in the same space of time; that which seems most limpid, and most freely yields lymph upon pressure, has its origin most commonly by a stalk or kind of peduncle, which is very small, compared to the size of the polypus; while that, which although plainly moveable, is still considerably less so than the other; which has been less liable to alteration from air and seasons; and has been rather slow in arriving at a very troublesome size, is most frequently an elongation of the membrane covering one of the ossa spongiosa: they are both capable of being extracted, and that with no kind of hazard, with very little pain and hardly any hæmorrhage at all; but the former requires the least force, and most frequently comes away intire; while the latter often breaks, comes away piecemeal, and stands in need of the repeated use of the forceps.

From the preceding observations a few practical inferences may be drawn, such as the following:

First, That the polypi, under the first description, very rarely, if ever admit an attempt

attempt toward extraction; and that not merely from the improbability of its being attended with success, but because such attempt may be the cause of very disagreeable consequences.

Second, that in those which do admit an operation, or the use of the forceps, the degree of success will depend principally upon two circumstances, viz. the benignity of the disease, and the degree and quantity of attachment; for although the nature of the complaint may be perfectly benign, yet it may happen, that a cure may not be attainable, and that merely from the degree and kind of attachment. And,

Third, That the hæmorrhage so much talked of, so solicitously guarded against by writers, and so much dreaded by young practitioners, will not often, if ever, be met with, in such cases as fairly and properly admit the operation.

The polypus is a disease, which, of all others, is said to be most difficult totally and perfectly to eradicate, and most liable to reproduction. This is, in some degree, true. It is difficult, in many instances, to extirpate it

it totally, and it often does grow again, more especially that sort which springs from the *ossa spongiosa*; but yet, that is not so often the case as it is supposed to be. It not infrequently happens, that there are, at the same time, two, three, or more different polypi, each of which is perfectly distinct from the others, and has a separable distinct attachment. When this is the case, the lowest or most anterior, having the open nostril before it, easily makes its way down, uncompressed, while the other, or others, are not only kept up, and out of sight, but are also considerably compressed.

When the one, which was within sight and reach, has been removed, the next falls downward, and soon becomes visible; if it was large and lax, and merely kept up by what lay before it, it is often to be seen immediately; but if it was small, it may be out of sight, and can only be suspected by the passage of air through the nostril not being free, although the polypus which was removed, came away perfect and entire; and when it does appear, it passes for a reproduction from the old stem, though it is really another and perfectly distinct polypus, of which the in-

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ture state of the investing membrane, and the separation of the polypus from its single point of attachment, will upon careful examination appear irrefragable proofs^c.

It may perhaps be remarked, that, in what I have offered concerning this distemper, I have confined myself merely to the operation of extraction only; and have said nothing concerning the various methods and means which have been proposed for its destruction.

^c Mr. Pott was particularly competent to describe this disease, having been troubled with polypi in his nose during many years; at one time they increased to such a degree as to distend the nostrils, and almost totally to prevent the passage of air; when they were fallen sufficiently low, Mr. Pott took an opportunity, in moist weather, and when they were in a state of relaxation, to extract the most prominent ones for himself, by means of a pair of window forceps before a mirror. In no great length of time others came in sight and supplied their place, which also Mr. Pott extracted in the same manner, till he had a collection of five or six large polypi; one of them had a single basis, but was branched out into two large lobes; to some of them there adhered a small portion of bone, to which they had been fixed; a sufficient proof that it required no small degree of fortitude and perseverance to perform the operation on his own person. Of late years he had entirely got rid of them; but there remained such a thickness of the whole membrane, that he continued totally deprived of the sense of smelling; a circumstance which he never much regretted.—E.

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I am very sensible that many of our books are furnished with relations of attempts made by escharotics, and by a kind of medicated setons, some of which have been said to be successful. If I had ever found them so, I should have been glad to have related it, but I cannot say that I have; on the contrary, all that I have done of this kind, or have seen done by others, have served more and more to deter me from practising it again. When the polypus is loose and fairly circumstanced for extraction, it is not only the best method of cure, but is always adviseable, and very frequently successful; but when from immobility, largeness of attachment, malignity of nature, or from any other cause, it becomes unfit for the use of the forceps, it is always, as far as I have been able to observe, still more unfit for caustic; nor indeed do I remember a single case, which has been so circumstanced as to render the use of the forceps absolutely unadviseable, where the application of escharotics would not have been much more so, as experiment, in some of them, has fatally proved. The structure and irritability of parts within the nose, and the impossibility
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of confining the application or limiting the effects of caustic medicines in such a part, in whatever manner or form applied, are palpable objections *à priori*; and the very disagreeable consequences which have been often found to follow from the inflammation and irritation of what it was impossible totally to destroy, have been too serious to be slighted^d.

The polypus sometimes, instead of falling down the nostril, makes its appearance backward in the fauces behind the uvula, in which case, the general method is, to extract it by introducing the instrument into the mouth instead of by the nose.

This, though sometimes practicable, is much more easily described than executed; and in some people will be found absolutely impracticable. The objection arises from the great difficulty of keeping the tongue down

^d The method by ligature, whether of silk or wire, is not attended with the inconveniences of the caustic, and is certainly practicable in some instances; but, as far as I have seen of it, is by no means equal to that by the forceps, either for its general utility, or its capacity of perfectly eradicating the excrescence. I know some ingenious practitioners, who approve of it; but I cannot say, from what has come within my knowledge, that it appears to me in so recommendable a light.

in some, and in others from their incapability of permitting any thing to touch the root of that part, or any part of the fauces, without immediately producing a spasm: to which might be added that, in some cases, the polypus is so expanded as almost to conceal the uvula, which is therefore liable to be laid hold of by the instrument, to the no small detriment of the patient.

However large, pendulous, or expanded such polypus may be, its attachment always is and must be within the cavity of the nose, and therefore always within the reach of a pair of forceps introduced that way, especially if the forceps be somewhat curved: and which, when the excrescence appears behind the uvula, will have one advantage superior to what it has when the polypus appears in the nose, which is, that it will be applied much nearer to the point of attachment, and therefore most likely to extirpate it perfectly.

I cannot leave this subject without cautioning the young practitioner to be exceedingly careful in examining and inquiring into all the circumstances previous to his undertaking a cure,

cure, lest he should find, too late, that he has gone too far to recede.

For want of such caution, I have seen hæmorrhages which have been frightful, and inflammations which have proved fatal. I have seen a case, wherein an untoward-looking polypus, and which ought not to have been meddled with, has been so attached to a dis-tempered septum nasi, that it has come away with it: I have seen the same thing happen with regard to almost the whole of the ossa palati: and I have more than once known a polypose thickening of the membrane covering the ossa spongiosa, and septum nasi, which, in all probability, would have remained quiet a great length of time, so irritated by rough treatment and successful attempts, as to render the remainder of the patient's life truly miserable to himself, and offensive to others.

CANCER SCROTI.

RAMAZINI has written a book *de morbis artificum*; the Colic of Poictou is a well known distemper; and every body is acquainted with the disorders to which painters, plumbers, glaziers, and the workers in white lead, are liable: but there is a disease as peculiar to a certain set of people, which has not, at least to my knowledge, been publicly noticed; I mean the chimney-sweeper's cancer.

It is a disease which always makes its first attack on, and its first appearance in the inferior part of the scrotum; where it produces a superficial, painful, ragged, ill-looking sore, with hard and rising edges: the trade call it the foot-wart. I never saw it under the age of puberty^a, which is, I suppose,
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^a Since Mr. POTT published this tract, I saw the disease which is described, in an infant under eight years of age, who was brought into St Bartholemew's hospital, and was an ap-

one reason why it is generally taken, both by patient and surgeon, for venereal, and being treated with mercurials, is thereby soon and much exasperated: in no great length of time, it pervades the skin, dartos, and membranes of the scrotum, and seizes the testicle, which it enlarges, hardens, and renders truly and thoroughly distempered; from whence it makes its way up the spermatic process into the abdomen, most frequently indurating and spoiling the inguinal glands: when arrived within the abdomen, it affects some of the viscera, and then very soon becomes painfully destructive.

The fate of these people seems singularly hard: in their early infancy, they are most frequently treated with great brutality, and almost starved with cold and hunger; they are thrust up narrow, and sometimes hot chimnies, where they are bruised, burned, and almost suffocated; and when they get to

prentice to a chimney-sweeper. I shewed it to Mr. POTT, who acknowledged it to be the true disease, and that he had not before seen it in so young a subject. It had infected all the lower part of the scrotum; but, as the testes had not imbibed the poison, the diseased part being removed, the wound healed, and the boy was discharged perfectly well.

E.

puberty,

puberty; become peculiarly liable to a most noisome, painful, and fatal disease.

Of this last circumstance there is not the least doubt, though perhaps it may not have been sufficiently attended to, to make it generally-known. Other people have cancers of the same parts; and so have others beside lead-workers, the Poictou colic, and the consequent paralysis: but it is nevertheless a disease to which they are peculiarly liable; and so are chimney-sweepers to the cancer of the scrotum and testicles.

If there be any chance of putting a stop to, or preventing this mischief, it must be by the immediate removal of the part affected; I mean that part of the scrotum where the sore is; for if it be suffered to remain until the virus has seized the testicle, it is generally too late even for castration. I have many times made the experiment; but though the sores, after such operation, have, in some instances, healed kindly, and the patients have gone from the hospital seemingly well, yet, in the space of a few months, it has generally happened, that they have returned either with the same disease in

the other testicle, or in the glands of the groin, or with such wan complexions, such pale leaden countenances, such a total loss of strength, and such frequent and acute internal pains, as have sufficiently proved a diseased state of some of the viscera, and which have soon been followed by a painful death.

If extirpation ever bids fair for the cure of a cancer, it seems to be in this case; but then the operation should be immediate, and before the habit is tainted. The disease, in these people, seems to derive its origin from a lodgment of foot in the rugæ of the scrotum, and at first not to be a disease of the habit. In other cases of a cancerous nature, in which the habit is too frequently concerned, we have not often so fair a prospect of success by the removal of the distempered part; and are obliged to be content with means, which I wish I could say were truly palliative: but here the subjects are young, in general in good health, at least at first; the disease brought on them by their occupation, and in all probability local; which last circumstance may, I think, be fairly presumed from its always seizing the same part:

part: all this makes it (at first) a very different case from a cancer which appears in an elderly man, whose fluids are become acrimonious from time, as well as other causes; or from the same kind of complaint in women who have ceased to menstruate. But be all this as it may, the scrotum is no vital organ, nor can the loss of a part of it ever be attended with any, the smallest degree of inconvenience; and if a life can be preserved by the removal of all that portion that is distempered, it will be a very good and easy composition; for when the disease has got head, it is rapid in its progress, painful in all its attacks, and most certainly destructive in its event.

OBSERVATIONS AND CASES

RELATIVE TO

R U P T U R E S, &c.

S E C T. I.

DISEASES OF THE OMENTUM, PARTICULARLY OMENTAL HERNIÆ.

THE general doctrine regarding these, is, that although they are sometimes troublesome, from their weight and size, yet the omentum being insensible, and very little, if at all, necessary to vitality, they do not call for our immediate assistance, and never endanger the patient's life.

That omental ruptures are not attended with those immediately hazardous circumstances, which necessarily accompany intestinal ones, is a truth beyond all doubt;

but that diseases of the omentum are of little consequence, or that this kind of rupture is so harmless, as never to bring the life of the patient into danger, and to prove positively, as well as eventually fatal, is a position which is by no means true.

Intestinal ruptures are primarily and originally hazardous, and this hazard arises as well from the structure, as from the functions of the parts concerned. The tender membranes of the intestines are very little able to bear any considerable degree of inflammation; and neither digestion of the food, propulsion of the chyle into, and through the lacteals, nor expulsion of the fæces from the large guts (offices absolutely necessary to the very existence of the animal) can be executed, while such stricture is made on any part of the intestinal canal, as either hinders its natural motion, or renders its tube impervious; consequently, whenever this happens, from whatever cause, the patient is immediately disordered and brought into a state of hazard.

The omentum is not indeed so liable to injury, either from its structure, or from its office; the dislodgment of it from its natural

tural situation within the belly, or its engagement in a stricture, seldom produce any immediate, or very pressing symptoms; and therefore its confinement within a hernial sac, has seldom been regarded as a matter of importance. Taken in a general sense, it certainly is not. The displacement of a mere portion of caul, from its natural situation, and the detention of it in the groin or scrotum, will not, in general, occasion any such interruption in any of the functions of the animal, or so disorder its internal economy, as to produce a considerable degree of pain, or hazard: but whoever from thence concludes, that omental ruptures are absolutely void of danger; will find himself much deceived: a more attentive observation of the disease, and its effects, will inform him, that very considerable mischief sometimes attends them, and that the ill consequences of neglect or mismanagement, though perhaps less frequent, and less rapid, are not less real.

The ills which may attend omental herniæ, are of two kinds: one of which is primary or original, proceeds from the part which first formed the rupture, and is confined

fined to it independent of any other; the other is secondary, or an accidental consequence, flowing indeed from the same original malady, but affecting other parts also.

The omentum is liable to inflammation, suppuration, gangrene, mortification, and scirrhus, while in its natural situation within the cavity of the belly; and each of these states is often the real, though most commonly unsuspected, cause of very alarming symptoms, and not infrequently of death.

It is not only liable to the same morbid alterations, when thrust forth from the cavity into a hernial sac, but the neglect or mismanagement of it, when there, is productive of these and other evils, which, for want of a proper attention, have either been totally over-looked, or set to the account of other causes. Violent or continued pressure on it has produced inflammation with all its consequences; has brought on fever of a very bad kind, suppuration, slough, and sphacelus; long confinement of it within a hernial sac has occasioned such other alteration in its form and texture, as to render it truly a diseased body; and to produce

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many inconveniences from such its morbid state; and an undue or interrupted circulation through it, by means of stricture, occasions, sometimes, such a collection of extravasated fluid in the sac, as to render it a necessary object of a surgeon's attention; not to mention that the dragging down a larger portion of the caul into the scrotum, proves sometimes more than merely disagreeable, by reason of its connexion with the abdominal viscera.

These are ills which arise from omental ruptures primarily, and are dependant upon the nature of the disease, considered abstractedly, without any view to or connexion with any other. But there is another which, although it may be called secondary, or be considered as a consequence, is both frequent and hazardous.

When a portion of the peritoneum, forming a hernial sac, has been thrust quite down into the scrotum, I believe I may venture to affirm (notwithstanding what may have been said to the contrary) that it seldom or never returns back into the abdomen again, but becomes immediately, and wholly, connected with the cellular membrane investing the spermatic

spermatic vessels; so that whoever has once had such sac so protruded, can never have any security against the disease called a rupture, but what is derived from such means as may render the entrance into that bag too small to permit any thing to pass from one cavity into the other. Upon this principle, and on this only, stands the utility, and indeed the necessity, of trusses and such kinds of bandages. By these, in infants, and in young subjects, such a coarctation or lessening of the entrance into the sac is produced, that a firm and permanent cure is often obtained; but in the majority of adults, and in all people far advanced in life, such effect is not to be expected. It does indeed happen to some few, but it is to be regarded as an accidental benefit; and the bandage being the only means whereby a descent can be prevented, it ought to be constantly and unremittingly worn.

Whoever has a just idea of an hernial sac, must be convinced, that while a body, or substance of any kind, possesses that part of it which communicates immediately with the belly, such passage can never be closed: and, consequently, that the one point in
which

which even the palliative cure of a rupture consists can never be accomplished.

A portion of omentum, although it be compressible, soft, and slippery, will, while it remains in such passage, keep it as constantly and as certainly open, as any other body whatever; and from the very circumstances of its being soft, slippery, and compressible, will still more easily let any other body pass by it: a portion of the intestinal canal is frequently pressed against the mouth of this sac, and that with considerable force; the orifice being open, and the omentum affording but little resistance, the said portion is often pushed into the bag, and by this means a new, and still more interesting and hazardous complaint, is added to the old one.

This happens much more frequently than it is supposed to do: and is, in the nature of things, so probable, that no person who has an omental rupture, can, for any the shortest space of time, be said to be secure against the descent of a portion of intestine; and consequently is always liable to every kind and degree of hazard attending an intestinal one.

C A S E I.

A GENTLEMAN, about forty-three years old, had, for some time, been subject to a rupture of the omental kind, which came down when he was in an erect posture, and went up with great ease when he lay supine.

I reduced it, and put on him a truss, which answered the purpose very well, by keeping the rupture up all the while it was worn: but the patient, disliking the necessary degree of pressure, and finding very little inconvenience from his disease, (it being merely a piece of caul) laid aside the use of his bandage, and suffered his rupture to take its own course.

Being obliged to take a long journey on horseback, and being apprehensive that his complaint might, by exercise in hot weather, prove troublesome, he had a mind to put his truss on again, not doubting but that he could replace his rupture as easily as he had been accustomed to do: he tried several times, but could not accomplish it: he came to
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me; I tried, and was foiled. I repeated the attempt again and again, but to no purpose, still being clear that the disease consisted only of a portion of omentum, and that not large.

From me he went to one of the advertisers; who having, for a day or two, amused him with anointing his groin, put on him a bandage with a large, hard bolster; which being buckled very tight, he was permitted to begin his journey, and was told that, long before he returned, the portion of caul would be shrunk to nothing, and his disease thereby cured. He set out, and got about twenty miles, when he found himself so ill, and in so much pain, that he determined to come back to London; which he accomplished with great difficulty.

I found him in extreme pain all over his belly, which would hardly bear being touched; he was incapable not only of sitting or standing upright, but even of lying straight upon his back; he could hardly bear the weight of the bed-clothes; and the most gentle pressure, toward the bottom of his belly, and his groin, was intolerable. The scrotum, and spermatic process, on the
ruptured

ruptured side, were swollen, tense, and inflamed; his skin was hot and dry, his pulse hard and frequent, and he had such a degree of restlessness, that although motion was very painful to him, yet he could not lie still for two minutes.

Notwithstanding the many opportunities which, before this accident, I had had of knowing the true nature of his rupture, and that I was perfectly convinced, that it had always been omental merely, yet from his acute pain, from the enlarged and inflamed state of the process, and from the nature and rapidity of his symptoms, I was much inclined to believe, that a portion of intestine had some share in the present mischief; but the patient, who was a very intelligent man, insisted on it that it had not, and that all his present malady was caused by the pressure of the truss on the omentum.

I took away a considerable quantity of blood, and, notwithstanding the patient's opinion, directed a solution of the sal rupell. in infus. senæ to be taken immediately, and a purging glyster to be thrown up as soon as it could be got ready; for the parts were in such a state, that, had there been more convincing

convincing marks of intestinal stricture, reduction by the hand was at that time impracticable, and unfit to be attempted. I saw him in about six or eight hours. The discharge per anum had been such as to put an end to all suspicion of stricture on any part of the intestinal tube, but his inflammatory symptoms were not at all lessened. I took away more blood, and would fain have put him into a semicupium, but the dread of motion prevented him from complying with it. His pain was excessive; and as he had now lost a very considerable quantity of blood, and had had a very free discharge by stool, I threw up a glyster of warm water, oil, and laudanum, and gave him two grains of extract. thebaic. by the mouth. He passed so bad a night, that he was glad, early in the morning, to comply with the use of the bathing tub, by the repeated use of which, and taking care to keep the body open, by lenient, oily remedies, he, at the end of four days, got to be easy.

Fomentation and poultice reduced the tumefaction in the groin and scrotum, and when they were removed, the rupture ap-

peared to be nearly in the same state as before the accident, only a little larger.

Two years after this he died, and was opened; his rupture was found to be merely omental, and the portion of caul which formed it was, in its inferior part, adherent to the hernial sac in two places.

C A S E . II.

A YOUNG man, who worked as a journeyman with a silversmith in Foster-lane, came to me three or four different times, on account of a rupture, which appeared to have every mark of being merely omental.

It was large, and had, as he said, been for some years easily reducible; but it was not at all so at his last visit to me. By a late increase of size and weight, it was become very troublesome, as well as very visible. Finding reduction impracticable, I recommended to him the use of a suspensory bandage, and gave him directions for his general conduct.

At the distance of about six months from his last visit, I was sent for to St. Bartholomew's

mew's hospital in a hurry, to a person supposed to labour under a hernia with stricture.

I found a man who was only not dead; he had a dying countenance, a faltering pulse, a constant hiccough, and cold extremities.

As it did not appear to me that it was possible for me to do him any service, I was going away, but was called back at the patient's particular request. He made himself known to me to be the person I have just mentioned; and a friend, who was with him, gave me the following account:

That a few days before, having an intention to marry, and believing that his rupture would be prejudicial to him, he had applied to somebody who had been recommended to him for relief: that the person to whom he applied, having received from him such gratuity as he could afford at that time, in part of payment, had promised to cure him within a month: that he anointed him for two or three days with an ointment, and then put on him a very strict bandage: that he was ordered to wear this bandage constantly, day and night: that when he had worn it

three days, not being able longer to endure the pain it caused, he took it off, and went to his surgeon, who seemed to be surprized, and bad him go home, apply to his groin and scrotum a poultice made of boiled turnips and hog's-lard, and come to him again the next day: that the inflammation and swelling increasing, he was prevented from fulfilling the last injunction, and therefore sent for his operator, who came to him, examined the parts, said he had got the pox, and refused to do any thing more for him without the deposit of another five guineas; and that not being able to comply with this demand, his friends had brought him to the hospital.

The scrotum had been of considerable size, but was now subsided; it had been very painful, but was now easy; it was in many places livid; and, upon handling, the fingers perceived that alarming crepitus, which infallibly denotes putrid air from gangrenous membranes.

When I saw him in health, I was perfectly satisfied, that his rupture was merely omental; I was as much satisfied, that his present state was owing to his bandage; but nevertheless I cannot but say, that I suspected a
piece

piece of intestine to have slipped down, and to have occasioned this fatality by being pressed on.

I inquired into his discharge by stool, and was told, that he had a large one within the last two days, but having often experienced how liable people are to deception, in these cases, I did not give entire credit to the account.

That evening he died, and next morning he was opened.

The scrotum and hernial sac were completely mortified, and within the latter was a small quantity of a most exceedingly offensive sanies, together with a large piece of sphacelated omentum only. The whole intestinal tube was within the belly perfectly sound, and in good order; but the omentum, within that cavity, had partaken considerably of the mischief done to that part of it which was in the hernial sac, and was gangrenous throughout.

C A S E III.

I WAS desired to visit a gentleman at Hackney, who had for some years been afflicted with a rupture, which at different times had been examined by Mr. Sainthill, Mr. Samuel Sharpe, and others; and had, by every body, been deemed to be merely omental. For some years it had been kept up by means of a steel truss; but a few months before I saw him he had laid aside his truss, and had put on a dimity bandage, with a large bolster, which he had worn very tightly buckled. How he had managed himself in other respects, I know not; but I found him with his groin and scrotum much swollen, and very painful to the touch; he was hot and feverish, and had been two days without a stool. The state of the parts was such, that an immediate attempt to reduce the rupture by the hand was impracticable, at least could not have been attended with any probability of success. He was immediately let blood, had a glyster, and an aperient draught. Next day I found him worse, in more pain, with more inflammation,

inflammation, and a greater degree of tumefaction, and had not yet had a stool. I was obliged to depend upon the patient's own account of his case previous to this attack. He insisted on it, that his rupture had never been intestinal, and that every body who had seen it had given him that assurance. This I could not contradict, but was, at the same time, much inclined to believe, that a portion of intestine was down now. The cataplasm was applied over the whole scrotum and groin, a stimulating glyster again thrown up, and a purging mixture ordered to be taken, cochleatum, every two hours, until he should have stools, but all to no purpose.

On the third day he was worse in every respect; his belly exceedingly tense, his pain great, his restlessness fatiguing, and he felt not the least tendency towards a discharge per anum.

I proposed the operation, but the patient and his friends objected. A glyster, of an infusion of tobacco, was administered. This produced such sickness and languor, with cold sweats, &c. as alarmed every body, but produced no stool.

Late in the evening, he submitted to the

operation. The parts were now so altered, that I garded myself with a most doubtful prognostic. I made an incision from the groin to the bottom of the scrotum: the skin, dartos, and hernial sac, were all gangrenous; and from the cavity of the sac I let out a considerable quantity of a most offensive sanies, and with it a large, putrid slough, which appeared to have been a part of the omentum. I examined the opening in the abdominal muscle, and was satisfied that it was in a natural state, and that nothing from the abdomen was engaged in it. On which account, I did not meddle with it, but having dressed the wound superficially, put on his poultice again. Dr. de la Cour was present at the operation, and directed for the patient. Another day passed without stool, and this I thought must have been his last day, but on the fifth he had a most plentiful discharge, and was thereby relieved from the tension of his belly, and his most troublesome symptoms.

The fore was a long time crude and unkindly, but by means of the bark, and proper diet, all difficulties were surmounted, and the patient got well.

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Had a piece of intestine been in the sac, it must, I think, have necessarily partaken of the state in which both it and the omentum were; and although the patient might possibly have survived, yet a discharge of fæces through the wound must, at least for a time, have been the consequence; but here was nothing of that kind, nor any reason, after the constipation was removed, to suppose that the intestine had ever sustained any injury, or had any share in the complaint.

C A S E IV.

A MAN, about fifty-five years old, asked my opinion concerning a hard swelling, which he had on each side, both in the groin and scrotum.

To the eye they appeared like omental herniæ; but upon examination, they were not only unequal in their surface, but craggy, and incompressibly hard.

The patient said, that at the time of handling them, they gave him very little uneasiness, but that such handling always made them painful for some time after: that he was, at times, attacked with acute pain
darting

darting through his belly, up into his loins; and that such attack was frequently attended with a nausea, and an inclination to vomit: that he had been subject to a painful colic, attended generally with constipation of belly: that an erect posture, if continued for any length of time, was very irksome: that these swellings were, for several years, soft and easily returnable into the belly: that while they were so, he had, by the advice of Mr. Samuel Sharpe, worn a steel truss; but that being engaged in a bustling, active kind of life, and the truss not always doing its duty, he had left it off for some years. That for the last two years, he had never been able to return either of them, since which they had altered very much: that in their present state he had consulted several of the profession, and some quacks: that by some they had been deemed scirrhus testicles, by others, scirrhi of the spermatic processes: that he had gone through a course of mercurial inunction; had taken freely of the solution of sublimate cu. decoct. rad. sarsaparillæ, and had (in his own phrase) swallowed a wheelbarrow-full of cicuta; that he had been promised a cure by having them

them laid open, to which he had submitted, had not the operator been too lavish in his promises, and too exorbitant in his demands; and that frequent attempts had been made to soften them by fomentation, poultice, &c. but all to no purpose.

He had a fallow complexion, a languid fatigued look, a weak, irregular pulse, too much heat and thirst, and too little urine: upon the whole, he seemed a very improper subject for any chirurgic treatment, if any could have been rationally proposed; but as it did not appear to me that any thing of that kind could be done for him, I advised him to keep his scrotum suspended, and to consult a physician on account of his general state.

Not long after, his legs swelled, he lost his appetite, and his urinary secretion almost totally ceased. The consequence of which was, a general anasarca, and death.

In each groin, and on each side in the scrotum, was a hernial sac, bearing all the marks of antiquity: in each of these was a hard, knotty, irregular kind of body, whose surface was covered with varicous vessels.

These bodies passed from the cavity of the belly, through the opening in the abdominal muscle, were continuations from the omentum, and were truly cancerous.

C A S E V.

THAT the residence of a portion of omentum in an open hernial sac, must render the patient constantly liable to the descent of a portion of intestine, is so self-evident, that it cannot admit the smallest doubt, but the following case being rather remarkable, I have inserted it.

A drunken idle fellow, who lived in the neighbourhood of St. Bartholomew's, used to come frequently to the surgery for pledgets for broken heads, &c. He had also a small omental hernia, as fairly and decisively characterised as possible. Myself, and all the surgeons, had at different times replaced it for him, and the hospital had once or twice given him a truss; but being much oftener drunk than sober, he seldom wore it at all, and when he did, it was seldom in the right place.

One day while I was at the hospital, he was brought in with an immense swelling

of the scrotum, and all the symptoms of a hernia with stricture, and those so far advanced, that he had no chance but from the operation, which I therefore performed immediately.

In the sac was a considerable portion of the ileum, and a large piece of the colon with the appendicula vermiformis, together with the small piece of omentum, which had constituted the original rupture. The parts were mortified, and the man died.

Unless it can be supposed, that so large a quantity of intestine could, by every body, be mistaken for a small one of omentum only, it must be clear that the residence of that small piece of omentum gave the opportunity for the formation of the intestinal hernia, and cost the poor man his life; more especially if it be noted, that the increase of tumefaction and attack of bad symptoms were the immediate consequence of an exertion of strength.

C A S E VI.

WHILE I was correcting these papers for the press, I was desired to go down to St.

Katharine's

Katharine's to see a patient, who was supposed to be afflicted with an incarcerated hernia.

I found a man between sixty and seventy, whose scrotum was large and full, and, as I thought, contained both omentum and intestine.

It was the third day since he had had a stool, although gentle cathartics had been given each day. His pulse was rather full, but otherwise not much amiss; he had now and then an inclination to vomit, and his belly was very tense; but, on the other hand, he had neither the sensation of general or local pain, either upon being examined, or put into motion, which persons labouring under a stricture most commonly have; neither had the spermatic process the feel which it usually has in such cases.

I could not say that I thought him in immediate hazard, although the irreducibility of his rupture, and the length of time which had passed since he had a stool, were certainly unfavourable circumstances. I directed a tobacco-glyster to be given immediately, and five grains of extractum catharticum to be taken, alternis horis, until he should

should have a stool. The glyster was administered and repeated, and the pills were taken, and I visited the patient early the next morning.

He had not had any discharge per anum, his belly was become much more tense, and I thought him upon the whole so much worse, that I proposed the operation, and the patient submitted to it.

In the hernial sac was a large piece of omentum, or rather of what had been omentum, but which was now hardened into a large flat cake, as incompressible as cold bees-wax, and about the size of a large mangoe; it distended all the upper part of the sac, and was adherent to the lower part of it: behind this large body lay a portion of the intestinum ileum, and below this, that part of the colon which is annexed to it: the colon was considerably distended with flatus, and the ileum was so wedged in and pressed, by the altered omentum, that nothing could possibly pass through it: when the portion of omentum was removed, the tendon made so little stricture on the gut, that, had it not been for the great distention
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of the colon, it might have been returned into the belly without division.

In short, the constipation of belly, and mischief proceeding from thence, seemed to arise entirely from compression made by the hardened omentum, and not from a stricture.

In my general treatise on ruptures, I have ventured to dissent from the commonly-received doctrine concerning the propriety of tying the omentum previous to its extirpation, when it may be found necessary to remove a part of it; and have said, that I thought it not only unnecessary, but pernicious.

Perhaps I may have conceived an unreasonable prejudice against this practice, and it may not appear to others so hazardous, or so improper, as it does to me; perhaps the cases which follow, and which are some of those that have furnished me with my objections, may not be thought cases in point; and the miscarriages in them may
be

be thought to be deducible from other causes: all I can say is, that it appeared to me, that the patients suffered principally, if not merely, from this cause; and that as I am by repeated experience convinced, that a portion of the omentum, however large, may be extirpated with perfect safety, without being previously tied, I shall never practise, or advise the ligature.

C A S E VII.

A MAN, about thirty years old, was taken into St. Bartholomew's hospital for a considerable swelling of the groin and scrotum.

The account he gave of himself was as follows: That he had for several years, a rupture, which many surgeons, who had seen it, had deemed to be merely omental: that he had formerly had a truss, but whether from its being ill made, or from his injudicious manner of wearing it, it had never kept his rupture properly up, and he had long disused it; and that the day before he was brought into the hospital, a horse had kicked him in the groin, and brought

on that increase of pain and swelling of which he now complained.

It was Mr. Nourse's week for accidents, and he consequently took the care of him. He was let blood, had a glyster, and a poultice was applied.

The next day the swelling was the same, and the man had not had any stool. A purge was administered, which he ejected by vomit; and another glyster was injected in the evening. On the third day, finding that nothing had passed, Mr. Nourse suspected that the intestine was concerned: he bled the man again largely, and ordered two spoonfuls of a purging mixture to be given every two hours, until he should have stools. That evening he vomitted two or three times, and next morning being still without a stool, Mr. Nourse determined upon the operation.

The hernial sac was found, thick and tough, and contained a portion of omentum, and some bloody water. Mr. Nourse and myself both examined the omentum carefully, upon a supposition that we should find some intestine within it. It was perfectly sound, but its vessels were considerably dilated:

dilated: there was no intestine, nor did the tendon bind upon the omentum. As there was no gut down, and as the portion of caul was now too large to repass the ring, Mr. Nourse made a strict ligature on it, just on this side, and cut it off.

Soon after the operation, the man had stools, but during that night, got little or no sleep, and complained of much pain. The next day he was worse, was feverish, complained of great pain about his navel, and that he could not sit or stand upright, but had two loose stools.

On the third day he was still worse; that is, had more fever, complained that his pain in his belly was excessive, and could keep nothing on his stomach. On the fourth day, toward evening, his pain suddenly left him, and early in the morning, he died.

Mr. Nourse, who was still apprehensive that the intestinal canal was some way or other concerned in the mischief, desired me to open the body.

The abdominal tendon was found and unhurt, nor was there any such appearance about the wound as always accompanies mischief proceeding from thence: the in-

testines were perfectly free from blemish, inflammation, or obstruction, nor was there any appearance of disease of any kind on or about any of the viscera, except the omentum, which was gangrenous through its whole extent.

What share the inflammation of the omentum might have in preventing a free passage through the intestines I know not, nor to what other cause such obstruction might possibly be owing; but that the omentum was found, at the time of the operation, and gangrenous when the patient died, is beyond all doubt.

C A S E VIII.

A MAN, about forty years old, who had for several years been afflicted with a rupture which had always been deemed to be merely omental, was brought into St. Bartholomew's hospital, labouring under all the symptoms of an intestinal hernia, with stricture; and those so pressing, that the operation immediately performed was his only chance.

Upon dividing the sac, a large piece of
omentum

omentum (which was considerably thickened in its texture, and whose vessels were considerably distended) presented itself. This was carefully expanded, as far as it would admit, and laid first on one side, and then on the other, but no other body discovered. The incision being continued higher up, in order to get at the ring, as it is called, a portion of intestine was discovered; it was so small, as hardly to consist of the whole diameter of the gut, but begirt very tightly. I had, when the intestine was fairly in view, a mind to try whether I could not return it without dividing the tendon, and succeeded in the attempt. When this was done, the consideration was, what to do with the omentum. It was so large, and so affected by stricture, that it could not repass the abdominal tendon without division: as the gut was returned, it seemed a pity to divide the tendon merely on account of the caul: it was therefore determined to tie it, and cut it off.

The man had a plentiful stool in an hour after the operation, but toward evening, and during the night, was much out of order. Next morning he was hot and rest-

less, had a frequent and full pulse, complained of great pain about his navel, and all over his belly, which was much too tense, and he was now and then very sick.

Blood was drawn from him freely; he had an oily, laxative glyster; and Dr. Pitcairn directed for him. On the third day, all his febrile symptoms, and his pain, were much exasperated, notwithstanding he had three or four stools.

I think I may venture to say, that both the physician and myself, did every thing in our power for him; but on the fourth evening he died.

As the case had given me some concern, upon a supposition that the man might have had a better chance, had the tendon been divided for the return of the gut, I opened him as soon as I had notice of his death. I examined the whole intestinal canal, and found it free from blemish: the peritoneum was unaltered; but all that was left of the omentum was gangrenous.

C A S E XI.

A MAN, about thirty-six years old, was a patient in St. Bartholomew's for a fore leg. While he was there, he desired me to look at a rupture, which he had long had, and which was clearly omental and irreducible:

When his leg was well, he desired me to cut him, as he called it; alleging, that his rupture was so troublesome, that it prevented him from following his business. I refused it, and directed him to wear a suspensory bag.

He solicited me again and again, and at last, overcome by his importunity, I performed the operation. The sac was thin, and the piece of omentum not large, nor at all altered, nor was there any thing else in the bag, I made a ligature, and cut it off without meddling with the tendon. From the time of the operation, he was in constant pain all over his belly.

Bleeding, laxative medicines, glysters, &c. were administered, but to no purpose.

On the fourth day he died, and had no appearance of mischief about him, except a highly inflamed omentum.

INTESTINAL HERNIÆ.

WHEN a portion of intestine, which has passed out from the cavity of the abdomen through the opening in the oblique muscle, is so begirt as not to be capable of executing its proper office, the person, to whom this happens, may be said to be in immediate danger.

The general offices of the intestinal tube are, digestion of the food, formation of chyle, impulsion of it into the lacteals, and expulsion of the fæces forth from the body. If these so necessary functions are, for any considerable time, suspended or prevented, the consequence is too obvious to need mentioning: fortunately for mankind, this cannot happen unknown to us. Whenever such stricture is made, symptoms and complaints arise which warn us of our danger: pain, tumefaction, and incapacity of going to stool, are the first and most immediate effects; if the case be neglected, or no proper remedy used,

used, inflammation, fever, sickness and vomiting, soon follow; and these are often, in a short space of time, succeeded by hiccough, gangrene, and mortification. Whoever considers what the first of these are indications of, and knows what will inevitably be the consequence if they be not obviated, must be sensible, that the very slightest attack of this kind ought to put us on our guard, and excite us to use our utmost endeavours to prevent farther mischief. How long the first and seemingly slightest symptoms may continue before material injury be done, no man can pretend to say; this must depend upon a variety of circumstances, and will be different in different cases; but as no man can be duly and intimately acquainted with these circumstances, and as the change from the most slight to the most hazardous is sometimes very rapid, no one can be vindicated in suffering the smallest portion of time to be lost by waiting a few hours.

The first thing to be done is to attempt the reduction of the intestine; if this fails, our next endeavour must be to relieve the symptoms, and thereby remove the obstruction to such reduction.

The means prescribed for this purpose are, phlebotomy, glysters, cathartics, a semicupium, or warm bath, fomentation, embrocation, and cataplasm; and these, by the generality of our writers of systems and institutes, are ordered indiscriminately, as if their efficacy were nearly equal, and it was a matter of indifference which a practitioner made use of. This I cannot conceive to be true: some of them are really useful; but others, as far as my experience goes, of little or no use at all; among the former, I reckon phlebotomy, cathartic medicines, glysters, and the warm bath; among the latter, embrocation, fomentation, and poultice: the former have saved many a life: from the latter, I never saw any material benefit, though I have often and often tried them; and I am much inclined to believe, that the use of them has cost many a person dear, by occasioning a loss of that time which ought to have been otherwise employed. The inflammation, and distention of the intestine can never be removed while it is begirt by the tendon of the abdominal muscle; whatever may be the original cause of the stricture, the effect must be the same;

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the tendon lies out of the reach or influence of a greasy poultice; the external skin may indeed be relaxed by it, and some small part of the uneasiness may thereby be relieved, but this is of no importance toward appeasing the symptoms, lessening the hazard, or affording a remedy for the original evil: the mere relaxation of the skin will not affect the stricture made by the tendon, the warmth of the poultice will increase the distention, and the intestine will become gangrenous, notwithstanding a small part of the external inflammation may seem to be appeased^a.

If the symptoms are neither such, nor so pressing, as to require the chirurgic operation; or if the fears and apprehensions of the patient, or of friends, prevent such operation, however necessary it may be; the most powerful and most efficacious means of obtaining relief are, phlebotomy, warm water, and the exhibition of such medicines as are likely to produce stools: by the first we reduce the strength of the

^a Cold, discutient applications, bid much fairer to retard the hasty progress of the inflammation, than warm ones; and will be found to answer the purpose much better. Such as solutions of sal ammoniac. crud. in vinegar, the sp. mindereri, the acet. lythargirit. and such like.

patient,

patient, lessen the velocity of the circulating fluids, moderate the febrile heat, and take the chance of a deliquium; by the second we endeavour to relax the tendinous opening by which the intestine is begirt: and by the third, the discharge of fæces, through the intestinal canal, is attempted. The power of the two first is clear and undoubted, but I cannot help thinking, that we are, in some degree, wrong about the last. Cathartic medicines have, in all times, been prescribed in the case of hernia with stricture; but the true intention, which ought by their means to be aimed at, does not seem to have been, in general, clearly understood: this perhaps is the reason why practitioners and writers disagree so much about the kind of medicines which they think most proper; some advising those which are of the lenient unirritating kind, others prescribing those which are most stimulating: both cannot be right, and therefore it may be worth while to inquire, what should be the point aimed at, and which are the most likely means to accomplish such end.

Is a discharge, per anum, the primary view, and therefore the first object of attention? or is such discharge to be regarded
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only as a necessary, or natural consequence of the removal of the intestine from its prison? If the former be the case, it is clear, that in the circumstances in which such patient must be, stools cannot be procured too soon, or by means which are too easy; and that such medicines as are most likely to slip through without stimulus, or irritation, must be the most proper, and most likely to answer the end: but if the case be otherwise, if the first view should be to extricate the gut from its stricture, and the discharge of fæces is to be regarded only as a necessary consequence of such removal, then, I think, it is as clear, that such lenients are unfit, because unequal to the task; and that a power or faculty of stimulating or irritating the muscular coat of the intestinal canal, ought to be the property of whatever is administered.

That a depletion of that canal is a great and immediate relief to the patient, by unloading the belly, and lessening the tension, is beyond a doubt; and it is as true, that without such discharge, the patient must perish, even though the stricture be taken off; but still the two objects are distinct and different,

different, and the removal or extrication of the imprisoned piece is clearly the first^b.

When purgative medicines of any kind are given by the mouth, in the case of a strangulated hernia, and do not succeed in removing the intestine from the stricture, they are either rejected by vomit, or by deriving an increased quantity of acrimonious faecal matter downward, add to the pain and tension of the belly.

This is a very material objection to the use of all cathartics, given by the mouth, and more especially to those whose bulk or quantity is at all large; and renders the application of such kind of medicines to that

^b It may not improperly, in this place, be asked, whether the operation of a purging medicine may not be different from either of these? and whether it may not be in an incarcerated hernia what it sometimes is in an ileus, where it often seems to act by overpowering that spasm which had begun to excite inflammation, and would soon bring on mortification? What still adds force to this method of reasoning is, the consideration of the great relief always obtained from a warm bath. Whether this be generally true or not, it is certainly well worth consideration. May not from this also be inferred the reason why opium, joined with purgatives, is sometimes, in the same disease, found to render the operation of the latter more successful?

part of the intestinal canal which is below the stricture, much preferable.

Indeed the superior advantages of stimulating medicines, given per anum, are, in this case, many and great; they give much less disturbance to the stomach, they occasion no pain in the belly, nor do they at all increase the load or tension; they may be repeated frequently, and, what is of the most consequence, they may consist of such materials as cannot properly, or indeed safely, be given by the mouth. All these are manifest advantages, but the last circumstance is peculiarly so, for the tobacco-smoke cannot possibly be swallowed, nor would any man in his senses think of putting the infusion into the stomach, although it is well known, not only that both may be very safely administered in the form of glyster, but that they are the most powerfully efficacious, and the most useful medicines we are acquainted with, for such purpose.

I have mentioned the smoke and the infusion of tobacco, as being equally useful, and have, from repeated experience, found them so.

Where a proper machine is at hand, or
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can easily be procured, I should certainly prefer the smoke to the infusion; because, the effects which both are apt to produce on the nervous system of the patient are, I think, lighter in the former, than in the latter; but where such machine has not been at hand, nor could be procured without a loss of time, which, in these cases, is always precious, I have frequently used the infusion, and generally very successfully. The symptoms arising from the intoxicating quality of the tobacco, the languor, the cold sweat, &c. which this weed causes, more especially in those who have not been accustomed to it, are, as I have said, I think, rather more from the infusion than from the smoke; but, though I have often used it, I do not remember ever to have seen any ill effect from it. It generally makes the patient very sick^c, and produces a fainting and a cold sweat, which, to those who do not immediately reflect on the intoxicating quality of tobacco, and the symptoms of such intoxication, may appear alarming; but whether it be from the

^c The infusion, which I have always used, has been made by pouring one pint of boiling-water on one drachm of tobacco.

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fwooning, or from the irritation made in the intestinal canal, or, which is much more likely, from both conjointly, I have, several times, seen ruptures, which have resisted all attempts by the hand, return of themselves, untouched, during the influence of such glyster.

Many other stimulating applications to the rectum, I have, at different times, made trial of, but never found any at all equal, in effect, to the tobacco; nor did I ever see any of them produce that convulsive motion of the muscles of the abdomen, which most frequently accompanies the sickness attending the use of this weed, and which, although fatiguing and troublesome while it lasts, yet is certainly one of the means whereby the extrication of the portion of intestine is accomplished.

I have also several times seen them both fail, after fair and repeated trial. Whoever expects infallibility in medicine, will be disappointed; but I can, with truth affirm, that I have seen both the smoke and the infusion succeed much oftener than any thing else, and sometimes in very desperate cases.

C A S E X.

I WAS desired to visit a ruptured patient with Mr. James, then surgeon to St. Luke's hospital.

The patient was a stout, healthy man, about thirty; the rupture was large, hard, painful, and beginning to be inflamed on the outside; no stool had passed for two days; the man had great pain all over his belly, and a frequent vomiting. Mr. James had many times tried to reduce it; he had bled him freely, and had given both purges and glysters, but all without effect.

The scrotum was exceedingly tense, and the pain which attended the most gentle handling was so exquisite, as not only to render all attempts for reduction, by the hand, improper, but hazardous.

It was about noon when I saw the man: every thing except the tobacco had been tried; the symptoms were advancing hastily, and the operation was proposed and submitted to; but while our things were getting ready, we thought we might as well try the smoke-glyster.

One ounce of tobacco was expended without any effect at all, either general or local; but

but toward the consumption of another, the patient became sick and faint, and complained of a strange kind of motion in his belly, and also in his rupture. Upon turning the bed-clothes back, the motion was not only to be felt within the scrotum, but was even visible; this motion continued about two minutes, when the intestine, without being touched, returned; the man became immediately easy; and, in half an hour, had a plentiful discharge per anum.

C A S E XI.

IN the month of September, 1767, I was sent for in a hurry to some little distance from London, in order to perform the operation for the bubonocoele.

I found a very large rupture on the right side, and that in so painful a state, as not to permit the most gentle handling. The patient had been treated with the greatest propriety; had been freely and repeatedly let blood, had taken purging medicines, glysters, &c. and had been several times in a bathing-tub: his vomiting was frequent, he had a tendency to a hiccough, and he could not bear to extend,

in the smallest degree, the thigh on the ruptured side.

The operation had been consented to before I had been sent for; but upon my asking the gentleman who attended, if he had a machine for giving the tobacco-smoke glyster, and being answered in the affirmative, we determined to try it first.

When about half an hour had been spent in the continual impulsion of the smoke, the man cried out, My rupture is going up; and, in the space of two or three minutes, it did so, with a noise which was heard by every one in the room.

C A S E. XII.

A GENTLEMAN, whom I had long known, had often shewed me a rupture, which he had laboured under as long as he could remember, and which was now and then troublesome to him, because he could not wear a truss to keep it within the abdomen. It was of the congenial kind; that is, the sac of the hernia was formed by what should have been the tunica vaginalis testis, but his testicle, on that side, had

had never descended from the groin, but lay just on the outside of the abdominal opening, neither had the portion of intestine got any lower, so that both of them lay together; on which account he not only never could wear a truss, but even the waistband of his breeches, if buttoned tight, was troublesome.

This gentleman was suddenly seized with the symptoms of a stricture, and those not slight, even at the first attack. The piece of intestine, though always in the groin when he was in an erect posture, had always gone up upon his going to bed, and was always returnable when he was supine. He tried now to reduce it as usual. He sent for me, and all my attempts were equally unsuccessful. His belly was very hard, he began to vomit, and the testicle became very painful to the touch.

All the circumstances were disagreeable, the symptoms advanced with uncommon rapidity, the portion of gut was small, the testicle inflamed, and somewhat enlarged: an operation might become necessary, but could not, in such circumstances, be desirable.

He was bled freely, even to swooning; purging medicines were given, and immediately rejected; glysters had no effect, but were as

immediately returned; and the patient, knowing his own situation, was much alarmed.

Dr. de la Cour, who was his physician, was called in, and having tried the tobacco-smoke, ineffectually, we agreed to throw up a pint of the infusion, made as before related. It soon made him exceedingly sick and faint, and caused a large discharge of wind, upward and downward, from which I expected a return of the gut, but in vain. At the distance of an hour or two, the infusion was repeated, with the same effect of faintness and sickness, during which, he was put into warm water, and when he had been in it a few minutes, the slightest application of the hand obtained immediate reduction, and stools.

C A S E XIII.

THE late Mr. Fullager desired me to go with him to see a wine-merchant in Billiter-lane, who had all the symptoms of strangulation in the case of a scrotal hernia, and whose rupture he had ineffectually endeavoured to reduce. I tried, and was also foiled. The symptoms were rather pressing. Mr. Smith,

in Cheapſide, who had been the apothecary to Mr. James's patient, was alſo apothecary here. It was determined that I ſhould meet Mr. Fullager again, in about three hours, in order to perform the operation; and that, in the mean time, Mr. Smith ſhould throw up the tobacco-ſmoke. At the appointed time we met, and found Mr. Smith employed as we had deſired; I laid my hand on the rupture to examine the ſtate of it, and it was wonderful with what facility it went up.

The ſame thing, exactly, happened to me with a coachman of the late Dr. Nicol of the Charter-houſe: but the ſame man upon a return of the complaint, at about two years diſtance, was not again ſo fortunate; the ſmoke and infuſion both failed, and the operation was performed; but too late.

It is as yet, with many, a diſputed point, in the caſe of incarceration of a portion of inteſtine in a hernia, whether the ſtricture made by the tendon be original or conſequential; or, in other words, whether the diſeaſe be not originally in the inteſtine, and

the stricture a mere effect of its dislodgment and distention. The arguments used in support of the latter opinion are by no means void of force, but at the same time, I cannot think them conclusive. The perfect health and ease of many, nay of every body, immediately before a *sudden* descent, the very pressing and alarming symptoms with which such descent is often attended almost instantaneously, and the relief which reduction immediately produces in the majority of such cases, together with the immediate and total removal or dissipation of all the evils occasioned by the confinement, seem to prove the general opinion to be true.

On the other hand, the perfectly quiet, easy, and uncompressed state of the parts, in many instances, immediately previous to the invasion of bad symptoms, in cases where there has been no exertion of strength, nor any apparent accession of a larger and new portion of gut, are circumstances which, added to the incapacity of the tendon to contract, are well worth weighing, as they certainly give force to the former supposition.

As a mere point of speculation, it is not
perhaps

perhaps a matter of very great importance; but, when considered as applied to practice, and influencing our conduct with regard to the chirurgic operation, it becomes very interesting indeed.

When the hand and the common means for reduction fail, the operation is our only resource, and if applied to in time, very seldom fails; so seldom that, I believe I might venture to say, not one in fifty^d dies of it, if timely and judiciously executed; and when it becomes absolutely necessary, it is the unicum remedium. This consideration renders it a matter of still more importance; for as in cases where it becomes necessary, and our only hope, it ought always to be proposed; for the same reasons, in cases where it is not necessary, it ought not to be thought of; and where it cannot be of use, it ought not to be done.

The intestinal tube, whether within the belly in its natural situation, or thrust forth from it in the form of hernia, is liable to diseases whose symptoms are peculiar to itself. Where there is no hernia, no body doubts concerning the nature of the case;

^d I mean of the operation considered abstractedly.

but

but where there is one, from the similarity of the symptoms, it always takes the blame; often deservedly, sometimes much the contrary.

In the case of old, unreduced hernias, there is no reason why the portion of intestine, forming such complaint, should be exempt from such distempers as the canal is liable to; on the contrary, it is reasonable to suppose, that by such unnatural situation and confinement, it would become rather more liable. But be this as it may, certain it is, that inflammation of the intestine, violent distention of it, with loss of peristaltic motion, and stoppage of stools, is sometimes the case in a hernia where the abdominal tendon has no share in the mischief; and as certain it is, that in such case the operator can do no good. In some instances this may, by attentive inquiry be learned, and the operation thereby preserved from a disgrace; in others, it can only be known by its proving unsuccessful.

When the disease is the mere consequence of stricture, and the gut, previous to such stricture, was free from distemper, it seldom, I might almost venture to say never happens, but that the setting it free is followed by

by a discharge per anum; especially if such intention be properly assisted: but when the disease was originally in the intestine, and the intestine either not bound by any stricture, or a stricture the mere consequence of the previous distemper of the gut, it most frequently happens that such discharge does not follow the operation, nor is obtainable by any means after it. This I have always regarded as a characteristic mark of the true nature of the malady; to which I think, from what I have seen of those cases, I might add another, which is the great difficulty, and, in some cases, impossibility of keeping the reduced intestine (after the operation) within the belly. A circumstance which I have seen sometimes to be absolutely impossible. In the cases where all the mischief arises from the mere prolapsus and stricture, the returned intestine becomes immediately pervious, and enjoying its peristaltic motion, keeps its place, and does its office; but where, by previous distemper, it is rendered impervious, and deprived of its motion, it cannot execute its office, it remains violently distended, and is, with great difficulty, kept within the belly, of which I
could

could give many instances. This is, on several accounts, a matter of importance, both to patient and surgeon: with regard to the former, it is not merely the alarm, anxiety, horror, and pain, which necessarily attend an operation of such kind, and of such serious consequence, and which, of themselves, are surely enough; but the distemper not residing in, nor being produced by the stricture, the necessary symptomatic fever attending such an operation must, in the nature of things, be a circumstance of additional hazard: and with regard to the surgeon, the difficulty of returning the distended intestine, and of keeping it in the belly after it has been returned, together with the most frequent, and indeed most probable event of such case, render it very unpleasant, and what every man would choose to avoid. No man can command success, but every man would wish to be in the way of it,

CONGENIAL HERNIÆ.

THE difference between these and other ruptures, is not a matter of mere anatomical speculation:

speculation: there are in the former several particularities which require a practitioner's very serious attention, and which an operator ought always to be aware of.

The sac of a common hernia, every one knows, is formed by the protrusion of the peritoneum, through the natural opening in the tendon of the external, oblique, muscle of the abdomen. This sac, at first, extends no farther than the groin, but is, by means of its contents, gradually pushed lower and lower until it gets into the scrotum. It always lies anterior to the spermatic vessels, and is enveloped in the cellular membrane, which makes the tunica communis of the said vessels, forms a cavity perfectly distinct from the tunica vaginalis testis, and never does, or can contain the testicle within it.

In the congenial hernia, the case is different; in this, the sac is not formed by the unnatural protrusion of a portion of the peritoneum, which ought to have remained within the belly, but is made by the unclosed vaginal coat of the testicle; consequently the said sac, constantly and necessarily, contains within it the testicle, together with whatever else may have passed from the abdomen to
constitute

constitute the hernia, and which parts must therefore be in contact with the testicle.

From this particularity result some circumstances very necessary for a practitioner to be acquainted with. Such are the following.

1. It sometimes happens that, in infants, a portion of intestine slips down along with the testicle, prevents the closing of the tunica vaginalis, and thereby constitutes the disease.

2. It sometimes happens, that a portion of gut only comes down, the testicle never passing forth from the abdomen, or remaining in the groin, and falling no lower.

3. In this species of hernia a stricture, or strictures, are sometimes met with, which are formed merely by the contraction or coarctation of the neck of the vaginal coat or sac, independant of the abdominal tendon. And,

4. The parts contained in a common hernia, are liable to contract cohesions with each other, or with the sac; but in the congenial, both omentum and gut are liable to become connected with the testicle; which connection will, sometimes, demand all the judgment,

judgment, and all the dexterity of an operator. So that, nice and delicate as the operation of a bubonocoele is in the most simple and common case, it becomes much more so in the congenial rupture.

C A S E XIV.

A BOY, about fourteen years old, was taken into St. Bartholomew's hospital for a strumous, lumbar abscess, the matter of which had made its way out in the upper part of the thigh. The discharge was great, and the boy sinking apace.

While he lived, I took notice of a particular appearance on one side of the scrotum.

The spermatic process, at its exit from the belly, was large and full, and plainly contained something which should not be there: immediately below the fulness, the process was of little more than its natural size; but just above the testicle, it was again considerably enlarged, and had the same feel as above.

The true state of the case remained in doubt till the boy died, at which time both
the

the swellings were become manifestly less than they had been.

I opened his body, and examined the parts with some care. The tunica vaginalis testis was open to the abdomen, and contained a considerable portion of omentum, which portion reached quite down to the testicle, but did not adhere to it: in the mid-way between the abdominal opening and the testis, the hernial sac was so contracted, that the piece of caul, embraced by the contraction, was not extricable by any force, and was pressed into a firm, hard substance: above and below, it was soft and expansile, but void of fat as in all emaciated subjects. This hernia, therefore, added to its other particularities, must have been incapable of reduction without an operation.

Much about the same time, Mr. Reiley a very ingenious gentleman, who was then under me at St. Bartholomew's, shewed me a congenial hernia in a child he had then in dissection, and in which a portion of intestine was begirt in the same manner, so as to be perfectly inextricable, but by division of the part.

Had the child lived, and, at any time, been

been under a necessity of submitting to the operation for a bubonocoele, this stricture, made by the sac only, and independent of the abdominal tendon, might have proved a very embarrassing circumstance in the operation, and have occasioned a difficulty which might not have been foreseen; indeed, upon a view of it after death, it appeared wonderful, how the intestine had executed its office during the child's short life.

C A S ' E XV.

THOMAS LEVER, a lad about seventeen years old, was sent to St. Bartholomew's by Mr. Gray, of Colchester. His complaint was a rupture which prevented his getting his bread, and which no body in the country had been able to reduce.

The account he gave of himself was as follows: That he had had the rupture as long as he could remember; that it had always been down in the day, and up in the night, until within about six months past, when he had been thrown over a horse's head, and bruised against the pommel of the saddle; that the blow gave him so

great pain, at the time, as to occasion his swooning; that the pain continued some hours, and was followed by inflammation and swelling, which lasted some days; and that, from that time, he had never been able to get his rupture up.

The scrotum was large and full, but not at all tense; it plainly contained a portion of intestine, but there was no symptom, nor any appearance of the smallest degree of stricture. Upon attempting reduction, some part of the gut passed easily and freely into the abdomen, but a considerable portion of it remained, nor could by any means be made to follow. The testicle was very distinguishable below, and seemed to be of its natural size, and in a natural state, except that from the epididymis there proceeded a small, hard body, which body became tight when the returnable part of the gut went into the belly, and seemed to be what hindered the return of the whole. The boy was in perfect health, had no obstruction to his discharge per anum, nor any complaint relative to the intestinal canal. A part of the intestine was, as I have already said, returnable with the greatest ease; but even this would

would not remain a moment after the finger which returned it was removed, not even in a supine posture. A complete reduction was found impracticable, the parts were in such a state, that no benefit could be proposed from evacuation of any kind. To put a truss on was not only useless, but mischievous; and to leave a boy of seventeen, who was to get his bread by hard labour, with his scrotum loaded with intestine, liable, by every exertion, to be increased, and by any inflammation to become strangulated, could not be thought of.

It was therefore, after very mature deliberation, deemed advisable to give him the very probable chance of a cure by an operation.

The very easy return of part of the gut into the belly convinced me, that I must not expect to find any fluid in the sac; and the boy's own account satisfied me that the hernia was congenial, and had the tunica vaginalis for its sac.

I made my incision very cautiously, and found both these circumstances to be true. In the bag was a small portion of the ileum, and that part of the colon called the cæcum,

with its appendicula vermiformis; the former was loose, but the latter was adherent to the epididymis and testicle. It took some little time to separate these connections in such manner as to injure neither of the parts, but when that was accomplished, a very small division of the tendon served to obtain a complete reduction of the whole, and the boy went home well in about six weeks.

If this lad had not undergone the operation at the time he did, and inflammation with stricture had, at any future time, attacked him, his chance of preservation would have been but small. The adhesion would have rendered reduction impracticable; but this not being known, would have at least occasioned a waste of time in unnecessary, fruitless attempts, &c.; unless it may be supposed that, after such attack, the intestine could be rendered pervious and capable of executing its office by means of purging and stimulating medicines (which, in this situation of things, I am not much inclined to believe) it is clear, that nothing but the operation could have served him; which operation, (the circumstance of adhesion

adhesion not being known) would not in all probability, have been proposed one minute too soon. Besides which, when all the parts were got into a state of inflammation, the separation of the cohesion might not, perhaps, have been executed so readily.

A case in some degree like to this, was in St. Bartholomew's about a year ago under the care of Mr. Younge. It was in a boy about eleven years old. His scrotum was much enlarged, and contained something of considerable size; but there was neither pain, inflammation, tension, nor impediment in going to stool; notwithstanding the absence of all bad symptoms, the boy, from the mere size of the tumor, was prevented from doing any thing either by way of exercise or work.

The operation was performed; the hernia, which was congenial, was both intestinal, and omental. I am sure I am within the truth when I say, that there were ten different adhesions of the omentum to the sac, and two to the testicle: nor was this all, for the upper part of the sac was so narrow, that it might well have been mistaken for a stricture made by the tendon.

Had the portion of intestine, in this case

been at any time increased, so as to have produced a stricture, bad symptoms would soon have come on, and what trouble might not have been expected from parts so circumstanced; not one of which could have been known previously to the operation.

A sudden attack of great pain in the belly, attended with sickness and vomiting, and an incapacity of going to stool, imply the probability of a rupture being the cause; especially if the person so attacked either has at that time, or has had one.

Pain in the belly, nausea, vomiting, and constipation, are the general symptoms of an obstruction in some part of the intestinal canal, and denote, among other things, a perversion, alteration, and, perhaps, sometimes, cessation of its peristaltic motion. They do not indeed point out what the particular cause may be; but let it be what it may, if it be not soon removed, the patient must sink.

An incarcerated hernia, as it is called, is a disease caused by such stricture made on a part of the intestinal canal, as not only stops its

its proper motion, and prevents the passage of the fæces through it, but also hinders the circulation of blood through its vessels, and very soon induces a mortification.

The same symptoms have sometimes been produced by an inflammation, or by a spasmodic affection of the same part in persons who, if they have had a hernia, have not had any stricture in it, and also in persons who have had no hernia at all.

The great and material difference between the two cases is, that in the one the symptoms are occasioned by an affection of a part of the intestinal tube thrust forth from its natural situation within the belly, and begirt by a stricture; and in the other, they arise from an affection of a part of the same canal, not begirt, nor thrust forth, but remaining in its proper place. The general complaints attending each of these diseases are so alike, and are so very difficult to be distinguished from each other, that whenever they appear to any violent degree, the places in which herniæ make their appearance ought always to be inquired into or examined, more especially in women; for although the symptoms resemble each other so much, the causes of

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them are materially different, and render one an object of surgery, while the other is not at all so. Whoever reflects on these facts, must see the propriety; or, indeed, the necessity of such inquiry as may determine the true nature of the malady; that a rupture, if it be the cause, may be immediately reduced; or that not being the case, that the passio illiaca may be properly treated.

These circumstances are such, that the hazard or safety of the patient often depends upon them, and therefore require the very serious attention of the practitioner: but material as they are, they are not all, there are others which equally demand his regard^d.

A rupture doth not preclude or prevent inflammation, or spasm, or whatever else may be the cause of mischief from attacking any other part of the intestinal canal not included within the hernial sac; neither doth it prevent the same kind of evils from falling on that part of the intestine which is within the sac, and thereby producing mischief independent of the rupture, although affecting the

^d The observation of Platner, who says, "*Nec facile inveniuntur notæ quæ ostendunt ex qua occasione intestina laborant,*" is strictly just and true.

part within, or causing it. And it also sometimes happens, that persons afflicted with unreduced, or irreducible ruptures, are rendered incapable of discharging their fæces per anum, by causes which have not the least connection with, or dependence upon the rupture, or the intestine contained within it. Thus it becomes a surgeon's care to endeavour to be able not only to know when a hernia is the cause of bad symptoms, but also when it is not; as his conduct upon these different occasions must be very materially different: for, on the one hand, if the mischief arises from the intestine being bound by a stricture, nothing but the reduction of it by the hand, or the setting it free by the chirurgic operation, can preserve the patient; but on the other, if the symptoms proceed from another cause even though the portion of intestine within the hernia should be the immediate seat of the evil, the attempts for reduction will be painful and vain, the operation at best useless, and most probably prejudicial; and if the seat and cause of the mischief be not within the rupture, both the last-mentioned attempts become thereby still more improper, more useless, and more pernicious.

C A S E XVI.

AN old gentleman, who had for many years had an irreturnable rupture of the mixed kind, and which I had often seen, was seized with the symptoms of an obstruction in the intestinal canal.

He complained of great pain in his whole belly, but particularly about his navel; he was hot and restless, and had a frequent inclination to vomit; his pulse was full, hard, and frequent; and he had gone, contrary to his usual custom, three days without a stool.

I examined his rupture very carefully; the process was large and full, as usual, but not at all tense or painful upon being handled; his belly was much swollen and hard, and he could hardly bear the light pressure of a hand about his navel. Upon mature consideration of the whole, I was of opinion, that his rupture had no share in his present complaints. But as some of his symptoms resembled those of a stricture, I desired that more advice might be had. A physician and surgeon were called: I gave them

them an account of what I had seen of the case, of my opinion concerning the irreducibility of the rupture, and that it had no share in the present complaint: at the same time desiring my colleague to examine for himself. We tried at reduction without success, but he thought that there was still a stricture. The Doctor ordered bleeding, glysters, and cathartics: the last were immediately rejected by vomit, and the glyster came away without any mixture of fæces. Bleeding was repeated ad deliquium, the tobacco-smoke was injected, but all to no purpose. The operation was proposed, but as the case did not appear to me to require it, I could not second the motion; it was, however, mentioned to the patient, who would not consent unless I would say that I thought it necessary, and believed it would be successful: I could not say either, because I believed neither. Every thing else that art could suggest or practise, was tried; but on the sixth day he died.

As it had been supposed that I was wrong and positive, I was very glad that his friends chose to have him opened.

The hernial sac was thick and hard, and contained

contained a large portion of omentum, a piece of the ileum, and a portion of the colon, all perfectly sound, free from inflammation or stricture, and irreturnable only from quantity. But the intestine jejunum was greatly distended, highly inflamed; and, in some parts, sphacelated.

C A S E XVII.

JOHN DEWELL, a man about thirty, was brought into St. Bartholomew's, labouring, as was supposed, under an incarcerated hernia. He had not had a stool for three days, although he had taken both purges and glysters; he vomited almost incessantly, his pulse was hard and frequent, but not full, and his countenance bespoke death.

He had a rupture; it was on the right side, was clearly intestinal, was soft, easy, occasioned no pain upon being handled, and seemed to be capable of reduction; but after many trials, I found that I could not accomplish that end, notwithstanding I used my utmost endeavours; all which gave the man no uneasiness, and therefore satisfied me,

me, that his symptoms did not arise from his hernia, which was also the patient's own opinion.

Mr. Nourse coming into the ward, I desired him to look at the man: he thought that, notwithstanding the seemingly quiet state of the rupture, a small portion of gut might be so engaged, as to cause his present mischief, and therefore that the operation was warrantable and proper.

Supposing it to be right at all, it could not be done too soon, and therefore we set about it immediately.

The hernial sac was formed by the tunica vaginalis; it contained a portion of intestine ileum, which had contracted a slight cohesion with the testicle, but was so perfectly free from stricture, that, when we had loosened it from its connection, we returned it into the belly without dividing the tendon.

I was indeed afraid that the man would have died before we could have got him to bed, but he lived till the next day.

A portion of the colon within the belly had been in a state of inflammation, was now plainly mortified, and quite black.

C A S E XVIII.

I WAS desired to be present at the opening of the body of a gentleman, whose disease and death had occasioned some alteration among those who had attended him.

The account given of him while living was, that to the age of fifty-six he had enjoyed an uninterrupted state of health.

That at the age of forty, he discovered a rupture, for which he immediately took advice, and put on a truss: that the truss not answering the purpose, he soon threw it aside, and suffered his rupture to take its course. That it gradually increased until it became both visible and troublesome. That he then applied to Mr. Sainthill, and Mr. Samuel Sharpe, both of whom endeavoured to reduce it, but in vain, and both advised him to wear a suspensory bag, which he, from that time, had constantly done. That from that time he had never complained of any uneasiness but what was occasioned by its mere weight. That he very seldom missed having a stool every morning.

morning. That about two years before his death, he began to complain of frequent pain about his bladder and fundament. That these pains had affected him near three months before he found any alteration in his fæcal discharge; but that from that time, he had been constantly constive; and for the last six months, had never passed a stool without a very stimulating purge, and even then with great difficulty. That he had frequently taken advice, had a variety of medicines prescribed, from none of which he ever reaped any other than the temporary benefit of purging. That in all this time, no alteration had ever been found or perceived in his rupture, either regarding its size, or any other circumstance. That for seven or eight weeks before his death, he had worn a very morbid aspect, was become exceedingly emaciated, and had totally lost all appetite, his pains also being more frequent, and more acute. And that for the last week, he neither had, nor could obtain any the smallest degree of stool.

This symptom had been, by those who were called to him last, attributed to his hernia; and the operation had been much pressed

pressed on one side, and objected to on the other.

The hernial sac was old, large, and thick; its contents, omentum, much hardened, and a considerable portion of the intestine ileum, both perfectly sound and unaltered, and not bound by the smallest degree of stricture; the stomach, liver, spleen, and small intestines, without blemish, but considerably distended; but about five inches of that part of the colon nearest to the rectum was so contracted, that it was quite impervious, and so hardened, that it was like nothing so little as a portion of gut.

C A S E XIX;

A MAN, about forty, was brought to St. Bartholomew's with a supposed incarcerated hernia.

He had a very swollen, tight belly, a frequent pain, and vomiting, and no stools; and this had been the case for three days, during which time, very proper attempts had been made both for reduction and passage.

Neither

Nèither the scrotum, nor the parts about the groin, seemed to indicate that the seat of the evil was there, although the parts were certainly too tense, and a portion of intestine was palpably in a hernial sac. It was Mr. Crane's week, who was out of London; and Mr. Edmund Pitt, who acted for him, desired me to assist in the operation, which was thought necessary, as no discharge per anum could be procured.

The hernial sac was of the congenial kind, and contained a portion of small intestine, which did not seem much, if at all, bound by the tendon, but it was so strongly and universally adherent to the neck of the sac, that it was impossible to think of separating it. A very unpleasant circumstance this. All that could be done was, to set it free from all possible stricture, and if stools could be procured, to act afterwards as might be necessary.

Every means, of purge, glyster, &c. was used, but no passage procured; and on the fourth day from that of his admission, he died.

The piece of intestine, in the hernia, was that part of the ileum nearest to the colon,

and which was in good order, only adherent; but higher up toward the jejunum, it was absolutely impervious for more than three inches in length.

I have seen two other cases so nearly similar, that I need not repeat them.

The following case has some circumstances which may possibly be worth the reader's notice.

C A S E XX.

THOMAS MARSHALL, aged fifty-four, was brought into St. Bartholomew's hospital, on the 25th of May, 1764, with a large, painful, tumefied scrotum. The account which he gave of himself was,

That, in his childhood, he had been afflicted with a gut-rupture, for which he had worn a truss until the rupture was supposed to have been cured. That he had always been a regular, temperate, and hard-working man. That, on the 23d of April, he felt, while he was at work, a sudden, violent attack of a colic-pain, which, in a few hours, was followed by a slight purging.

That,

That, his pain not ceasing, he took some tincture of rhubarb, from which he had three or four more motions. That, in the evening of the second day, he found a considerable swelling in his groin and scrotum, on the side where his rupture had formerly been. That, on the third, he went to work again, although he had much pain in his belly, and a purging. That, on the fourth, he took something of the cordial kind, given him by a neighbour, and staid at home all that day and the next, during which he was pretty easy, but had several loose stools. That, on the seventh day from that of his being first taken ill, he went to work again, but was again attacked with severe pain, and frequent vomiting: immediately after which, he found the swelling in his scrotum considerably increased. That, from this time, he was so much, and so constantly uneasy, as to be obliged to keep his bed, it being the only place in which he could put himself in a tolerably easy posture. And that during the whole time, from the 29th of April to the 25th of May, he had very seldom had less than two stools every day, often more.

The man was much emaciated, had a quick pulse, a hot skin, and considerable thirst: the scrotum was now very much on the stretch, began to put on a purple kind of colour, and had, at the same time, a watery load in its cellular membrane, but palpably contained a large quantity of fluid in the tunica vaginalis testis. The whole tumor had a pyriform kind of figure; the spermatic process was hard and large, and clearly contained something which passed into it from the belly, but which something did not descend below the upper part of the scrotum, while the lower part of the same was so distended, as to be half way down the thigh, and was palpably filled by a fluid.

The state of the parts were such, that it became necessary to do something, lest they should mortify. I made, with all possible caution, an incision through the loaded integuments into the cavity of the tunica vaginalis, and gave discharge to near a quart of the most offensive brown liquor: upon the discharge of this, the lower part all subsided; but the upper remained the same. I then, with a crooked probe-pointed knife, divided the whole from below upward, and found that the bag containing

containing the fluid was a congenial hernial sac, whose internal surface had all the appearance of being mortified; and that the body, in its upper part, was a portion of intestine. This portion had, on its surface, several black and truly sphacelated spots; some larger, and some smaller; but the gut was still intire, and appeared moderately distended with wind. I passed my finger through the opening in the abdominal muscle, and could not find that it made the smallest degree of stricture; but found, at the same time, that the intestine was so firmly adherent to the sac, that, in its present state, it was equally impossible to return, as to detach it. That night the man had two good stools, and next morning, when I expected to have found him dead, he was considerably better.

I again examined the parts, to see whether the intestine could be returned; but again found that, had it been advisable, it was impracticable. The third day he was still better, and had a figured stool.

As it appeared highly improbable, that the mortified spots on the gut should cast off without leaving a breach in the intestine; I

thought that the best that could happen, would be a discharge of fæces through the wound, at least for a time: but I was mistaken, for at the end of five days, during which he had taken the bark freely, all the eschars cast off, by a florid, good incarnation, and leaving no breach at all, the man became easy, cheerful, and began to take nourishment.

From this time, the portion of intestine in the groin seemed daily to retire upward, and become less visible, and I began to entertain hope that we should see a very fortunate termination of this very miserable case. For the space of ten days he took the bark freely, and seemed every day better and better; but at the end of that time, he became again feverish and languid; instead of his usual freedom of stool, none could be procured, and he died.

The prolapsed gut had retired so much, that, had the man lived, I make no doubt that it would have been included within the fore, and been firmly healed over: the places which had been sphacelated, were quite healed; but about four inches of that
part

part of the intestine, which was just within the belly, was so contracted as to become quite impervious, and perfectly scirrhus.

The intelligent will, I make no doubt, remark on some parts of this case; and therefore I shall trouble him with one only, which is that sphacelated spots on the surface of an intestine are not always, and absolutely, a prohibition against returning such intestine into the belly.

C A S E XXI.

I was desired to meet Dr. De Valangin, Mr. Godman, and Mr. Boigue, in the case of a hernia with stricture.

The patient was a man about the middle of life, his rupture was, I think, on his left side, and when I saw him he had not had a stool for several days, though the usual means had been used. Upon examining the parts, they made as bad an appearance as possible: they had been tumid, full and inflamed, they were now sunk, flaccid, and completely mortified: notwithstanding which, I could not say that the man appeared so near to death

as such an appearance would indicate; but at the same time so materially ill, that I could not suppose that he could receive any benefit from the art of surgery.

The true intent of the operation, that of setting the gut free from the stricture, was of no consideration here: the stricture had done all its mischief; if the man was to live, the mortified parts must cast off; and if he was to die, I thought it was better that we should not even appear to have a share in his death, by an operation which I thought could not be serviceable, and might be misconstrued.

This was truly my opinion, and I gave it as such. But, overcome by the importunity of the patient's wife, and to avoid seeming to be either careless or brutal, I was prevailed on to divide the parts. The scrotum, integuments in the groin, and hernial sac, were completely and truly mortified; the portion of intestine, which certainly was not less than three inches, was in the same state, sunk, empty, (having burst) and as black as a coal; the offence was terrible, but the man suffered no pain, as the parts were totally void of sensation.

I con-

I contented myself with merely dividing the scrotum and hernial sac, and left the rotten intestine as it was, lying in the groin on the outside of the ring, concluding that a very short space of time would determine the poor man's fate, and that not favourably. The gentlemen whom I had met continued to attend, and to take care of him: the mortified parts cast off; he discharged his fæces through his wound for some time, but that, in no great length of time, ceased; and within the space of a month, I saw him in very good health, discharging all his fæces per anum, and having only a small, clean, and healing sore, where his wound had been. How the fæces passed from the ileum to the colon, after the mortified parts were thrown off, I am, considering the size of the portion of gut, really at a loss to account for; but very sure I am, that if the advice given by all writers, in these cases, to cut off the piece of mortified intestine, and fasten the sound part to the upper part of the wound, had been followed, the man would have passed the remainder of his life in a much more unpleasant manner.

HERNIA VESICÆ URINARIÆ.

A HERNIA formed by a protrusion of a portion of the urinary bladder through the opening in the abdominal muscle into the groin or scrotum, is a disease, sometimes, but not very frequently met with.

It has been taken notice of by many writers of character, and has been accurately described by Mons. Verdier, and Mr. Samuel Sharpe.

Whoever is acquainted with the structure and disposition of the peritoneum, without which knowledge he cannot understand a hernia at all, knows that the bladder is only covered in part by that membrane, and that its inferior and lateral parts lie on the outside of it, in the tela cellulosa.

That portion of the bladder which is liable to this protrusion, is not covered by the peritoneum; consequently, when it is thrust forth, it does not carry with it any part of the said membrane; and therefore cannot have what is called a hernial sac; in which it differs from every other kind of hernia.

The

The two following are the only cases I ever met with.

C A S E XXII.

A POOR fellow, who worked with a farmer at Islington, came to St. Bartholomew's with a large, troublesome swelling in his scrotum. The tumor was large, tense, of a pyriform figure, palpably contained a fluid, gave no pain but from its weight when full, and had every mark of a hydrocele, except that the testicle was perfectly distinguishable at its bottom.

While I was hesitating concerning this circumstance, the man said, Sir, I can get rid of it all by pissing, but it fills again in a few hours, especially if I drink.

Upon my seeming to disbelieve what he said, he took up his scrotum, and squeezing it together with some violence, discharged the whole by the urethra.

C A S E XXIII.

A BOY, about six years old, was seized with an acute pain about the region of the pubes;

pubes; it lasted near an hour and half, and suddenly ceasing, he became perfectly easy. During the time his pain lasted he could not discharge a drop of water, though he endeavoured so to do, but as it ceased he pissed freely. In a few days after, a small tumor was discovered about the size of a pea, in the spermatic process, just below the groin: it gave the child no pain, and therefore no notice was taken of it. By slow degrees it descended lower and lower, and as it descended, it seemed to increase in size: when it had got to the upper part of the scrotum, it was observed to be considerably enlarged; and the boy now found himself more frequently urged to make water, but without pain or difficulty. He was examined by a practitioner or two in his neighbourhood, who, not knowing what to make of it, advised the letting it alone. Within the space of five years it got down to the bottom of the scrotum, and when it was there it was observed to increase much faster than it had done before. The boy was at a considerable distance from London, and it ill-suited his friends to send him thither, so that another year passed before he was sent up; which was done at the

age

age of thirteen, the swelling being now troublesome upon any motion.

Some, who first saw him, deemed it a scirrhus testicle, and advised castration, to which the friends of the boy would not submit.

From the most careful examination I could make, I could not think it was formed by the testicle; but on the other hand, I could not find any testicle on that side.

The swelling was perfectly equal in its surface, was indolent, had a stony, incompressible kind of hardness, was troublesome from its weight, but never occasioned pain in the back or loins: it had all the appearance of being dependant from the spermatic process; which process, though it had neither the feel, nor the appearance of being diseased, yet was larger than it should be, and than that on the other side. The perfect equality of the tumor, its being perfectly free from pain, even when pressed hard, and its extreme incompressibility, led me to believe it was not the testicle; but this was merely negative information. The trouble it now gave the boy, and its disposition to increase, seemed to authorise its removal; and the state
both

both of the part and of the child were no prohibitions. I therefore proposed and undertook it. I made an incision through the skin and cellular membrane, the whole length of the process and scrotum, by means of which I discovered a firm, white, membranous bag, or cyst, connected loosely with the cellular membrane in the same manner as a hernial sac. I dissected all the anterior part of this bag, quite clean, and found that, as I traced it upward, it became narrower, and seemed to proceed from the upper part of the groin. This determined me to try if I could not clear it from its posterior connection; in doing which, I discovered a testicle which lay immediately behind the body forming the tumor, and was small, flat, and compressed.

The dissection of this, and of the spermatic chord from the bag and from its neck, which I was obliged to do in order to preserve the testicle, took up some time, and gave me some trouble; but when I had finished it, I found that the cyst was dependent from, and continuous with a membranous duct about the breadth of the largest wheat-straw, or what it was more like to, a
human

human ureter, which passed out from the abdomen through the opening in the muscle.

When I had perfectly cleared this duct from all connection with the spermatic chord, I cut it off immediately above the tumor, and upon the division, there issued forth about four ounces of a clear liquor, and the mouth of the cyst, expanding itself, disclosed a stone, exactly resembling what is found in the human bladder.

As there was not the least appearance of fluid, either in the bag or in its neck, before the division, its immediate effusion, and the appearance of the stone, induced me to believe, that the case was a hernia cystica. In order to be certain, I staid some time; and when I thought that some quantity of urine might have passed from the kidneys, I desired the boy to try to make water: he did so, and a large stream of urine flowing through the wound, instead of the urethra, put the matter out of all doubt.

He was dressed superficially, had no one bad symptom, though a portion of the bladder was totally removed: his urine came through the wound in his groin for about a fortnight; but as that wound healed, it resumed

sumed its natural course, and the patient has remained free from complaint ever since, except that the natural size of his bladder being lessened by the extirpation of a part, he is obliged to discharge his urine rather more frequently.

C A S E XXIV.

AN OVARIAN HERNIA.

A HEALTHY young woman about twenty-three was taken into St. Bartholomew's hospital on account of two small swellings, one in each groin, which for some months had been so painful, that she could not do her work as a servant.

The tumors were perfectly free from inflammation, were soft, unequal in their surface, very moveable, and lay just on the outside of the tendinous opening in each of the oblique muscles, through which they seemed to have passed.

The woman was in full health, large breasted, stout, and menstruated regularly, had no obstruction to the discharge per anum, nor any complaint but what arose from the uneasiness

uneasiness these tumors gave her, when she stooped or moved so as to press them.

She was the patient of Mr. Nourse. He let her blood and purged her, and took all possible pains to return the parts through the openings through which they had clearly passed out.

He found all his attempts fruitless, as did Mr. Sainthill and myself; and the woman being incapacitated from getting her bread, and desirous to submit to any thing for relief, it was agreed to remove them.

The skin and membrana adiposa being divided, a fine membranous bag came into view, in which was a body so exactly resembling a human ovarium, that it was impossible to take it for any thing else; a ligature was made on it, close to the tendon, and it was cut off. The same operation was done on the other side; and the appearance, both at the time of operating, and in the examination of the parts removed, were exactly the same.

She has enjoyed good health ever since, but is become thinner and more apparently muscular; her breasts, which were large, are gone; nor has she ever menstruated since the operation, which is now some years.

OBSERVATIONS ON THE MORTIFICATION

OF THE

TOES AND FEET.

THE powers and virtues of the Peruvian bark are known to almost every practitioner in physic and surgery. Among the many cases in which its merit is particularly and justly celebrated, are the distempers called gangrene and mortification; its general power of stopping the one, and resisting the other, have made no inconsiderable addition to the success of the chirurgic art; but still there is a particular species even of these, in which this noble medicine most frequently fails: I mean that particular kind, which, beginning at the extremity of one or more of the small toes, does, in more or less time, pass on to

the foot and ankle, and sometimes to a part of the leg, and in spite of all the aid of physic and surgery, most commonly destroys the patient.

It is very unlike to the mortification from inflammation, to that from external cold, from ligature, or bandage, or to that which proceeds from any known and visible cause, and this as well in its attack as in its process. In some few instances it makes its appearance with little or no pain; but, in by much the majority of these cases, the patients feel great uneasiness through the whole foot and joint of the ankle, particularly in the night, even before these parts shew any mark of distemper, or before there is any other than a small discoloured spot on the end of one of the little toes.

It generally makes its first appearance on the inside, or at the extremity, of one of the smaller toes, by a small, black, or bluish spot: from this spot the cuticle is always found to be detached, and the skin under it to be of a dark red colour.

If the patient has lately cut his nails, or corn, it is most frequently, though very unjustly,

unjustly, set to the account of such operation.

Its progress in different subjects, and under different circumstances, is different; in some it is slow and long in passing from toe to toe, and from thence to the foot and ankle; in others its progress is rapid, and horridly painful: it generally begins on the inside of each small toe, before it is visible either on its under or upper part; and when it makes its attack on the foot, the upper part of it first shews its distempered state, by tumefaction, change of colour, and sometimes by vesication; but wherever it is, one of the first marks of it is a separation or detachment of the cuticle.

Each sex is liable to it; but for one female in whom I have met with it, I think I may say, that I have seen it in at least twenty males. I think also that I have much more often found it in the rich and voluptuous, than in the labouring poor; more often in great eaters, than free drinkers. It frequently happens to persons advanced in life, but is by no means peculiar to old age. It is not, in general, preceded or accompanied by apparent distemperature

either of the part, or of the habit. I do not know any particular kind of constitution which is more liable to it than another; but as far as my observation goes, I think that I have most frequently observed it to attack those who have been subject to flying uncertain pains in their feet, which they have called gouty and but seldom in those who have been accustomed to have the gout regularly and fairly. It has, by some, been supposed to arise from an ossification of vessels; but for this opinion I never could find any foundation but mere conjecture.

The common method of treating this distemper is, by spirituous fomentations, cataplasms actually and potentially warm, by dressings of the digestive kind, as they are called, animated with warm, pungent oils and balsams, &c. and, internally, by the Peruvian bark.

I wish I could say that this, which, with little alteration, has been the general practice, had been most frequently, or even often successful; but I am, from long and repeated experience, obliged to say, that it has not.

I am sensible that many of my readers
will

will be surpris'd at my affirming, that the Peruvian bark will not stop a mortification, a distemper in which, for some years, it has been regarded as specific; but I must beg not to be misunderstood: I mean to confine my observation and my objection to this particular species of mortification, which I regard as being *sui generis*: and under this restriction I must repeat, that I have seldom, if ever, seen the bark successful: in all other cases, wherein it is used or recommended, no man has a higher opinion of it; but in this I cannot give it a praise which it does not deserve.

I believe I may venture to say, that I have tried it as fairly, as fully, and as variously as any man has or can: I have given it in the largest quantity, at the shortest intervals, and for the longest possible space; that is, as long as the patient's life would permit: I have given it by itself in decoction, extract, and substance; I have combined all these together; I have joined it with nitre, *sal. absynth.* with snake-root, with *confect. cardiac.* with volatile salts, and with musk, as different circumstances seem'd to require, or admit: I have used it as

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fomentation:

fomentation, as poultice, as dressing; I have assisted it with every thing which has been usually thought capable of procuring, or assisting digestion; still the distemper has continued its course, perhaps a little more slowly, but still it has ended in death.

I am sorry to rob one of our great medicines of any part of its supposed merit; but as on the one hand, its claim, in this instance, is unjust, and as on the other, I hope to add as much to the character of another, the *res medica* will be no sufferer.

Some time ago, I had a patient labouring under this complaint, who, from antipathy, obstinacy, or some other cause, could not be prevailed on to take bark in any form whatever. I made use of every argument, but to no purpose: fomentation, poultice, and the usual dressings were applied in the usual manner; the disease advanced some days more, some days less, and at the end of a fortnight, the small toes were all completely mortified, the great one become blackish, the foot much swollen, altered in colour, and the disease seeming to advance with such hasty strides, that I supposed a very few days would determine the event.

event. The pain in the foot and ankle was so great, and so continual, as totally to deprive the patient of sleep. On this account, and merely to procure some remission, I gave two grains of opium at night, which not having the desired effect, I repeated it in the morning. Finding, during the following day, some advantage, I repeated the same dose night and morning, for three days; at the end of which time the patient became quite easy, and the appearances on the foot and ankle were visibly more favourable. Encouraged by this, I increased the quantity of the medicine, giving one grain every three or four hours, taking care to watch its narcotic effect, and to keep the belly empty by glysters. In nine days from the first administration of the opium, all the tumefaction of the foot and ankle totally subsided, the skin recovered its natural colour, and all the mortified parts plainly began to separate; in another week they were all loose, and casting off, the matter was good, and the incarnation florid. During the whole of this time, I continued the use of the opium, varying its quantity as circumstances required,

quired, but never gave less than three or four grains in twenty-four hours.

When the sloughs were all cast off, the bones separated, and I had only a clean sore to dress and heal, I gradually left of the medicine.

I am very willing to acknowledge, that however well-pleased I might be with the event of this case, yet I really regarded it as accidental; so much so, that having very soon after another opportunity, I did not care to trust to opium alone, but joined the bark with it. The event was equally fortunate. But although I had joined the cortex with the extractum thebaicum, and did therefore attribute the success to the reunited powers, yet the effect was so very unlike to what I had ever seen from the bark without opium, that I could not avoid seriously, and often reflecting on it, and determining to use it by itself, whenever another opportunity should offer. I did so, and succeeded in the same happy manner, though under the very disagreeable circumstances of seventy years of age, a broken, distempered constitution, and the disease making a hasty progress.

To

To relate cases which are nearly or at least materially similar, is of no use: I shall therefore only say, that every opportunity, which I have had since of making the experiment, has still more and more convinced me of the great value and utility of this medicine, and of its power of rescuing from destruction, persons under this affliction.

I cannot say that it has never failed me: it certainly has; but then it has been under such circumstances, as I think would fairly account for the failure.

I should be exceedingly sorry to be misunderstood; I should be still more so to mislead any body; and therefore I beg it may be noticed, that I do not propose the *extractum thebaicum*, in this case, as an universal, infallible specific; I know, from experience, that it is not; but as I also know, from repeated experience, that it will, under proper management and direction, do more than any, or than all other medicines; and that I have, by means of it saved some lives, which, I am very sure, would, under the common, and most approved method of treatment, without it, have

have been lost, I could not answer to myself the not communicating what I had observed.

If this was an experiment, in which the life or limb, or health of the patient, was in any degree endangered, or by which the person, on whom it may be tried, could in any degree, be injured, I should have withheld what I now publish, until a greater length of time and more experience, had rendered it still more absolutely certain; and I should have thought myself strictly vindicable in so doing: but as this is a medicine, whose general effects are well known, and which is at the same time, so capable of direction and management, that it is almost impossible for any person who deserves to be trusted with medicine at all, to do any material harm with it, I thought it would be wrong and unjust to conceal what had occurred to me, lest I might thereby deprive the afflicted of an assistance which, I verily believe, is not to be obtained from any other quarter.

In short, from what I have seen and done I am perfectly convinced that, by its means, and by its means solely, I have saved lives which, without it, must have been lost.

If

If it preserves a few of those, who are so unfortunate to labour under this nasty, painful, lingering, and destructive disorder, to which we are all liable, and which has hitherto, most frequently foiled all attempts of art, I shall be sincerely glad to have contributed to so good an end: if it should prove in other hands as successful as it has with me, I shall be still more so; but on the other hand, if after several times giving me reason to believe and hope that it would prove an instrument for the preservation of many, it should, upon more repeated trial, be found to fail, I shall be sorry for the event, but shall still think, that I did right in communicating what I had seen, and thereby endeavouring to be useful to mankind.

*Hoc opus, hoc studium, parvi properemus et ampli,
Si patriæ volumus, si nobis vivere cari.*

If I am right in my conjecture concerning this hazardous and destructive malady; and if the method which I have proposed and practised, should prove as successful in the hands of others, as it has in mine, I cannot help thinking, that the external or chirurgic treatment of the disorder might be amended;

amended; that is, might be made to coincide more than it does at present with such soothing kind of plan.

Since I have had reason to embrace this opinion, and to act in conformity to it, I have found more advantage from frequently soaking the foot and ankle in warm milk, than from any spirituous, or aromatic fomentations whatever; that is, I have found the one more capable of alleviating the pain, which such patients almost always feel, than the other; which circumstance I regard as a very material one. Pain is always an evil, but, in this particular case I look upon it as being singularly so. Whatever heats, irritates, stimulates, or gives uneasiness, appears to me always to increase the disorder, and to add to the rapidity of its progress; and, on the contrary, I have always found that whatever tended merely to calm, to appease, and to relax, at least retarded the mischief, if it did no more.

The whole plan of the chirurgic treatment of this disease is founded on a general idea of warming, invigorating, stimulating, and resisting putrefaction; and the means generally made use of are very proper for such

such purpose: but I must own that I think the purpose, or intention, to be improper.

Upon this principle, the old *theriaca Londinensis*, and the present *cataplasma e Cymino*, have been, and still are, so freely used on this occasion. A composition of this kind, if it does any thing, must heat and stimulate, and it is by heating and stimulating the skin, to which it is applied, that it so frequently does that mischief which I am confident it often does, though such mischief is set to the account of the nature of the disorder. Cases exactly similar, in all circumstances, are not to be met with every day, but I am from experience convinced, that of two, as nearly similar as may be, in point of pain, if the one be treated in the usual manner, with a warm, stimulating cataplasm, and the other only with a poultice made of the fine *farina feminis lini*, in boiling milk or water, mixed with *ung. sambuc.* or fresh butter, that the pain, and the progress of the distemper, will be much greater and quicker in the former than in the latter.

When the black or mortified spot has fairly made its appearance on one or more of the toes, it is the general practice to scarify or
cut

cut into such altered part with the point of a knife or lancet. If this incision be made merely to learn whether the part be mortified or not, it is altogether unnecessary, the detachment of the cuticle, and the colour of the skin, render that a decided point: if it be not made quite through the eschar, it can serve no purpose at all; if it be made quite through, as there is no confined fluid to give discharge to, it can only serve to convey such medicines as may be applied for the purpose of procuring digestion to parts capable of feeling their influence, and on this account they are supposed to be beneficial, and therefore right.

When the upper part of the foot begins to part with its cuticle and to change colour, it is a practice with many to scarify immediately; here, as in the preceding instance, if the scarifications be too superficial, they must be useless; if they be so deep, as to cause a slight hæmorrhage, and to reach the parts which have not yet lost their sensibility, they must do what indeed they are generally intended to do, that is, give the medicines, which shall be applied, an opportunity of acting on such parts.

The

The medicines most frequently made use of for this purpose are, like the theriaca, chosen for this supposed activity ; and consist of the warm, pungent oils and balsams, whose action must necessarily be to stimulate and irritate : from these qualities they most frequently excite pain, which, according to my idea of the disease, is diametrically opposite to the proper curative intention ; and this I am convinced of from repeated experience.

The dressings cannot consist of materials which are too soft and lenient ; nor are any scarifications necessary for their application. But I would go farther and say, that scarifications are not only useless, but, in my opinion, prejudicial, by exciting pain, the great and chiefly to be dreaded evil in this complaint. The poultice should be also soft, smooth, and unirritating ; its intention should be merely to soften and relax ; it should comprehend the whole foot, ankle, and part of the leg ; and should always be so moist or greasy as not to be likely to become at all dry or hard, between one dressing and another.

I will trouble the reader with only one remark more.

When the toes are, to all appearance, perfectly mortified, and seem so loose as to be

capable of being easily taken away, it is, in general, thought right to remove them. However rotten and loose they may seem to be, or really are, yet while they hold on, they hold by something which is still endued with sensation, as may always be known, if they be bent back or twisted with any degree of violence.

I will not enter into a dispute about the sensibility or insensibility of ligaments, nor undertake to determine whether they be ligaments or any other kind of parts which still maintain the connection of the toes with their own respective joints, or with the metatarsal bones; it is sufficient for me to know, and to inform the young practitioner, that however loose they may seem, yet if they be violently twisted off, or the parts, by which they hang, be divided, a very considerable degree of pain will most commonly attend such operation, which therefore had much better be avoided; and that I have seen this very pain, thus produced, bring on fresh mischief, and that of the gangrenous kind.

If the patient does well, these parts will certainly drop off: if he does not, no good can arise from removing them.

REMARKS

R E M A R K S

ON THE NECESSITY AND PROPRIETY OF THE

OPERATION OF AMPUTATION,

IN CERTAIN CASES,

AND UNDER CERTAIN CIRCUMSTANCES.

R E M A R K S

ON THE

OPERATION OF AMPUTATION.

No MAN, however slightly acquainted with the history of Surgery, can have the smallest doubt of the superiority which its present state justly claims over that of our predecessors, especially over that of our more remote ones.

The surgery of the last century, and even of some part of this, was coarse and cruel in its operative part, painful and tedious in what is generally called the curative. A multiplicity of heavy unmanageable instruments characterised the former, and a variety of irritating applications the latter. By means of the one, many operations were rendered much more terrible to bear, as well as more hazardous in the event, than they ought to have been; while long-sufferance,

and tedious confinement, became the necessary consequences of the use of the other.

To simplify the art has been the aim of all the best practitioners of later times, and to this they owe both their success, and their reputation; by this they have reduced our instruments to a small number, and have rendered those which are now used much more manageable; upon the same plan, they have discharged a farrago of external applications, the majority of which were either useless, or mischievous; a prosecution of the same method will, I make no doubt, produce greater improvements, but still operations will for ever remain unavoidable in particular circumstances, and some diseases will still sometimes require applications which must produce uneasiness: to render these as seldom necessary, and as little painful as possible, should be the business of every practitioner, and this is all that art can do, or that should be expected from it. The boast of universal specifics, of remedies infallibly preventative of diseases, and of means whereby chirurgical operations may be rendered totally unnecessary, is the language of quackery, and not of science.

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The amputation of a limb is an operation terrible to bear, horrid to see, and must leave the person on whom it has been performed in a mutilated imperfect state; but still it is one of those which becomes, in certain circumstances, absolutely and indispensably necessary.

To those who are well acquainted with surgery, it must appear needless to have said this; they well know the truth of it: but as they who have not had sufficient opportunity of obtaining practical information, may be misled by a contrary doctrine when boldly advanced; and as they who are really well informed may, under certain circumstances, be deterred from acting up to their knowledge, I have thought that I should not absolutely mispend my time, nor do mankind a disservice, if I took this opportunity of giving the subject a little consideration.

I am the more inclined to do this for three reasons:

1st. Because I am satisfied that the propriety of amputations in certain cases, stands upon as fixed and as rational principles as any part of surgery.

2d. Because a contrary doctrine has within a few years been boldly, and industriously propagated, not without some very indecent, as well as untrue reflections, on the profession in general, and on those who have the care of hospitals in particular: and

3dly. Because I am convinced that such doctrine has been employed to the prejudice of mankind, by covering Ignorance and Timidity, and also for serving the base purpose of malevolence.

“*Ne occidisse nisi servasset,*” is under certain limitations a very just and prudent maxim, but taken at large may be productive of much mischief. Mankind are rather too apt to form their opinion from events only; success with many constitutes propriety, and the failure of it is often very unjustly set to the account of misconduct, or of want of knowledge. A young practitioner at a distance from assistance, and thereby deprived of that support, may be afraid to put his character to hazard, by acting in such manner as although it might justly entitle him to success, yet cannot command it. He may understand his art, but art is not infallible. He may be a very excellent surgeon,
and

and yet be afraid to encounter the prejudices of some, or the malevolence of others.

A few years ago a book was published professedly to oppose and condemn the practice of amputation in all cases whatever, and almost without exception. The book was written by a Mr. Bilguer, a surgeon in the Prussian service; Mr. Tiffot wrote some Annotations on it, and a Preface, announcing its great and wonderful merit and utility; and the whole was translated into English, and dedicated to Sir John Pringle. Both the book and the Annotations contain some very extraordinary doctrines and assertions, neither of which it is my intention to criticise in this place. They who read the work, and understand the subject, will, I verily believe, have but one opinion. The writer, as well as the annotator, may have meant well; but certain I am, if their opinions were generally followed, mankind would be great sufferers. The particular cases in which the operation of amputation is totally and absolutely unnecessary, and therefore wrong, are in his own words, or at least in those of his translator, as follows :

“ 1st.

“ 1st. A mortification which spreads
“ until it reaches the bone.

“ 2dly. Any limb so greatly hurt, whe-
“ ther by fracture or dilaceration, that there
“ is room to dread the most fatal conse-
“ quences.

“ 3dly. A violent contusion of the soft
“ parts, which has at the same time shat-
“ tered the bones.

“ 4thly. Wounds of the larger vessels,
“ which convey blood into the limb, either
“ as the only way of stopping the hæmor-
“ rhage, or through apprehension it should
“ perish for want of nourishment.

“ 5thly. An incurable caries of the
“ bone.”

In the first of these the art of surgery has very little to do, except the mere sawing the bones through; nature, if the patient lives, will in general do all the rest, and will remove the limb whether the surgeon may choose it or not. In the 2d, 3d, and 4th, what the writer has asserted is so repugnant to the universal opinion of all the ablest and best practitioners, to common sense, and to constant experience, and his doctrine would, if followed, be productive

of so much mischief to mankind, that I cannot help bearing my testimony against it. But as flat contradictions have no more authority than positive assertions, I take this opportunity of giving my reasons for a different opinion, at large.

The cases in which, under *certain circumstances*, amputation *may* become necessary for the preservation of the patient's life, are several, but I will confine myself to four.

These are: 1. A compound fracture.

2. Some kind of scrophulous joints.

3. Some kind of aneurisms.

4. A caries of the whole substance of the bone or bones composing a limb.

In all, and each of which, it may, and does sometimes so happen, that the patient's life can be only preserved by the loss of his limb. This doctrine is very opposite to that of the book just cited, but if it be consonant to truth and experience, it matters not from whom it may differ.

In compound fractures, there are three points of time, in which the operation of amputation may become necessary. The first of these is immediately, or as soon as may be after the receipt of the injury. The
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(second is, when the bones continue for a great length of time without any disposition to unite, and the discharge from the wound has been so long and is so large, that the patient's strength fails, and general symptoms foreboding dissolution come on; and the third is, when a mortification shall have taken such complete possession of the soft parts of the inferior part of the limb, quite down to the bone, that upon separation of such parts, the bone or bones shall be left bare in the inter-space.

The first and second of these are matters of very serious consideration. The third hardly requires any.

When a compound fracture is caused by the passage of a very heavy body over a limb, such, for instance, as the broad wheel of a waggon, or a loaded cart, or by the fall of a very ponderous body on it, or by a cannon-shot, or by any other means so violent as to break the bones into many fragments, and so to tear, bruise and wound the soft parts, that there shall be good reason to fear that there will not be vessels sufficient to carry on the circulation with the parts below the fracture, it becomes a matter of
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the most serious consideration, whether an attempt to save such person's limb, will not be the occasion of the loss of his life: this consideration must be before any degree of inflammation has seized the part, and therefore must be immediately after the accident.

When inflammation, irritation, and tension have taken place, and when the air admitted freely into the tela cellulosa has begun to exert its pernicious influence, it is too late: an operation then, instead of being beneficial, would prove destructive.

The necessity of immediate, or very early decision in this case, arising from the circumstances already mentioned, make this a very delicate part of practice: for however pressing the case may seem to the surgeon to be, it will not in general appear in the same light to the patient, to the relations, or to by-standers; they will be inclined to regard the proposition as arising from ignorance how to treat the case properly, or from an inclination to save trouble, or perhaps from a still worse motive, a desire to operate; and it will often require more firmness on the part of the practitioner, and
more

more resignation and confidence on the part of the patient, than is generally met with, to submit to such a severe operation, in such a seeming hurry, and upon so little apparent deliberation; and yet it often happens, that the suffering this point of time to pass, decides the patient's fate. I must repeat, that this necessity of early decision, arises from the very just dread of the ill effects of a greatly obstructed circulation, owing to a large destruction of vessels; these added to those arising from pain, irritation, and the admission of air, often produce a high fever, and intense inflammation, ending, and that very shortly, in gangrene, mortification and death. That this is no exaggeration, melancholy and frequent experience evinces, even in those whose constitutions previous to the accident were in good order; but much more in those, who had been heated by violent exercise, or labour, or liquor, who have led very debauched and intemperate lives, or who have habits naturally inflammable and irritable.

This may be, and often is the case, when the fracture happens to the middle part of the bones, at the greatest possible distance from
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the extremities; but is much more likely to happen, and indeed much more frequently is the case, when any of the large joints are concerned: the circumstances of broken bones in these parts, and of torn, bruised, and wounded ligaments, to say nothing of the admission of air into joints, are dreadful additions to the hazard, and demand a speedy decision, as they are productive of the worst consequences in the shortest space of time; and therefore, that in many of these cases, a determination for or against amputation, is really a determination for or against the patient's existence, is a truth of which I am as well satisfied, as I am, or can be, of any truth what ever.

That it would have been impossible to have saved some limbs which have been cut off, no man will pretend to say; no man that knows any thing of the matter can say it: but this does not at all alter the consideration, or render the practice injudicious or blameable, the question really standing thus: Do not the majority of those whose misfortune it is to get into the just-mentioned hazardous circumstances, and on whom the operation of amputation is not performed, perish, and that by means of their wounds? Or,
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to put the same question into other words; have not many lives been preserved by means of amputation, which from the same circumstances would otherwise most probably have been lost?—It is not for me, especially after what I have said, to determine it: it is not indeed for any one man to do it; I therefore appeal to all the best practitioners, to those who have seen the most of these accidents, for the truth of the assertion.

When a judicious man says that a limb ought to be removed, it is not to be supposed that he means to say, that it is absolutely impossible, at all events, that such limb can be saved, nor, that such patient must infallibly die, if the operation be not performed; no, he only means, that from repeated experience of himself, and others, in all times, it has been found, that the circumstances above-mentioned put the patient's life much more to hazard in an attempt to save the limb, than the operation does in removing it; and therefore that humanity as well as judgment determine for the latter. On the other hand it must be allowed, that from some of the worst of these cases, some have had the good fortune to escape; but escapes they so truly are, that

that I make no scruple to affirm, that in certain cases and circumstances a determination not to amputate, is a determination much more unfavourable and hazardous to the patient, than that for amputation can be.

It is, I think, impossible for any person who has either sense or candour, so to misconstrue what I have said, as to imagine that I would recommend the amputation of the majority of limbs which have suffered a compound fracture; such conduct would be as injudicious as it would be cruel:—My meaning is, that the operation should be limited and confined to certain cases and circumstances, already mentioned, and that under them it is not only proper, but necessary.

Pressing and urgent as the state of a compound fracture may be at this first point of time, still it will be a matter of choice whether the limb shall be removed or not; very serious deliberation may be required, added to all the judgment and experience of the most able practitioner, to determine what may be most for the patient's safety: but at the second period which I have mentioned, the operation ceases to be a matter of choice,

it must be submitted to, or the patient must die.

The most unpromising appearances at first do not necessarily or constantly end unfortunately. Every body conversant with business of this kind, knows, that sometimes, after the most threatening first symptoms, after considerable length of time, great discharges of matter, and large exfoliation of bone, it happens, that notwithstanding all these difficulties and discouragements, success shall ultimately be obtained, and the patient shall recover his health and the use of his limb.

But it is also as well known, that after the most judicious treatment through every stage of the disease; after the united efforts of physic and surgery, it sometimes happens, that the sore, instead of granulating kindly, and contracting daily to a smaller size, shall remain as large as at first, with a tawny, spongy surface, discharging a large quantity of thin sanies, instead of a small one of good matter: that the fractured ends of the bones, instead of tending to exfoliate, or to unite, will remain as perfectly loose and disunited as at first, while the patient shall lose his sleep,

sleep, his appetite, and his strength, a symptomatic fever of the hectic kind, with a quick, small, hard pulse, profuse sweats, and colliquative purgings, contributing at the same time to bring him to the brink of the grave, notwithstanding every kind of assistance. In these circumstances, which are by no means uncommon, if amputation be not performed, I should be glad to be informed what else can rescue the patient from destruction.

Let it not, by way of answer, be said, that a more generous plan of diet should be prescribed: that bark, cordials, anodynes, astringents, &c. should be taken, because I should be very sorry to have it supposed that I was either so-unknowing or so brutal as to think of amputation, before every thing of this kind had been fairly and fully tried, and found ineffectual. I confess that I know of nothing but the operation which can be attempted; and when, instead of this, I hear people talk of specific balsams, particular fomentations, &c. I can only be sorry to find that they are so weak, or so wicked.

I might in this place mention a case which I have twice seen, which is, that in a com-

pound fracture, which has got well through the first or inflammatory state, the bones, instead on the one hand of exfoliating, or uniting, or on the other, of remaining entirely disunited, shall (in particular constitutions) become thoroughly distempered and enlarged through their whole substance, forming such a kind of caries as nothing but amputation can cure.

The third and last period which I mentioned regarding compound fractures, and requiring amputation, is indeed a matter which does not require much consideration.

Every practitioner knows that sometimes, too often indeed, it happens that the inflammation consequent upon the injury, instead of producing abscess and suppuration, tends to gangrene and mortification; the progress of which is often so rapid, as to destroy the patient in a very short space of time, constituting that very sort of case in which amputation should have been immediately performed. But it also sometimes happens, that even this dreadful and very threatening malady is by the help of art, put a stop to, but not until it has totally destroyed all the surrounding muscles, tendons, and membranes,
quite

quite down to the bone, which upon the separation of the mortified parts, is left quite bare, and all circulation between the parts above and those below is, by this, totally cut off. If it should be said, that merely sawing the bare bones cannot be called amputating, I will not dispute about the propriety of the phrase; but only beg leave to observe, that call the operation by what name you please, the patient loses his limb.

The case is exactly the same, when a mortification, from what ever cause, has seized the lower part of a limb, and produced the same effect.—This is the very case which Mr. Bilguer has mentioned, of mortification seizing all the parts down to the bone: let the cause of the mortification be what it may, if the effect be the destruction of all the soft parts down to the bone or bones, either the surgeon must saw them, or they must be left to separate; in either case the patient loses his limb.

Scrophulous joints, with enlarged carious bones, and distempered ligaments, make a second kind of case, in which I have said that amputation may become absolutely necessary.

There is one circumstance attending this kind of complaint, which often renders it particularly unpleasant, which is, that the subjects are most frequently young children, or at least are at so early an age, as to be incapable of determining for themselves, which inflicts a very distressing task on their nearest relations.

The common people call these, white swellings; a term not very unapt, because it conveys an idea of one mark of the distemper, which is, that notwithstanding the increase of size in the joint, the skin is not inflamed, but retains its natural colour.

An history of this kind of disease is a thing very much wanted, and I much wish that some man who has leisure and capacity, and who has seen business, would undertake it. If I was possessed of the requisite knowledge, it would carry me too far from my present purpose, which is only to prove that when it affects the joints in a certain manner, and to a certain degree, that then the mischief which it causes is such, that nothing but the removal of the joint can remedy.

Whoever has had opportunity of seeing
much

much of this disease, must know, that all the efforts of physic and surgery, by internal as well as external means, do often prove absolutely ineffectual, not only to cure, but even to retard the progress of this most terrible malady.

I should be sorry to be misunderstood: I do not mean to say that this is always, or even most commonly the case, nor that scrophulous joints are not sometimes relieved, and even cured by means of art; I sincerely wish that they were more frequently, and that we were possessed of more effectual remedies for this purpose than we are, or at least that I am acquainted with; but to the great misfortune of scrophulous people, every man conversant with business knows, that the disease often begins in the very inmost recesses of the cellular texture of the heads of the bones forming the larger articulations, such as the hip, knee, ankle, and elbow; that the bones so affected spread gradually, and become enlarged to a very considerable degree, and carious throughout, sometimes with great pain and symptomatic fever, sometimes with very little of either, at least in the beginning: that the

cartilages covering the ends of these bones, and designed for the mobility of the joints, are totally destroyed: that the epiphyfes in many young subjects are either partially or totally separated from the said bones: that the ligaments of the joints are so thickened and spoiled by the distemper, as to lose all natural appearance, and become quite unfit for all the purposes for which they were intended: that the parts appointed for the secretion of the synovia, become distempered in like manner; that all these together furnish a large quantity of stinking sanious matter, which is discharged either through artificial openings made for the purpose, or by small ones made by erosions, and that these openings commonly lead to bones which are rotten through their whole texture; that bad as this is, it is not all, nor the worst: for when the disease is got into this state, the constant pain, the irritation, and the absorption of poison from all these distempered parts, bring on a fever of the truly hectic kind, attended with the most destructive general symptoms, such as total loss of appetite, rest, and strength, profuse night sweats, and as profuse purgings, which
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foil all the efforts of medicine, and bring the patient to the brink of destruction.

That this is no exaggeration is known to every body.

Now, supposing that the art of surgery, or, what is by many supposed to be more capable, the art of quackery, could exfoliate all the bones of a large joint, and restore the internal and medullary parts of it to a sound state; supposing either of them capable of giving the ligamentous parts a new and healthy structure, and of re-uniting the loosened epiphyses; I say, supposing, against all sense and experience, all this to be practicable, yet it must require a length of time to accomplish, which such patient's state will not admit.

The state which I have described is no uncommon one, neither are the circumstances at all exaggerated; but it is the state of a person hastening rapidly to destruction, who has no time to lose, and whose life can be preserved by the removal of the limb only.

That unless the operation be performed, such patient will perish, is an incontestible truth; and it is as incontestibly true, that
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numbers in the same circumstances have, by submitting to the operation, recovered firm and vigorous health, which they have enjoyed for many years, or even during a long life; and therefore, bad as this state of things is, and terrible as it must be to lose a limb, yet if it be thought preferable to parting with life, it is a consolation to have the malady fall on a part where amputation can be performed, such as the knee, ankle, or wrist, rather than on the hip, where it cannot, or on the parts about the lumbal vertebræ, there causing those most dreadful and most destructive distempers, known^a by

^a M. Bilguer, and M. Tiffot, are the only people whom I have met with, or heard of, in the profession, who speak of an amputation in the joint of the hip, as an advisable thing, or as being preferable to the same operation in the thigh: the doctrine is so new, and so uncommon, that I must beg leave to cite the whole passage in their own words, lest my reader should not give me credit,

“ The difficulty attending amputation in the upper parts of
 “ the thigh is so considerable, that surgeons rather chuse to
 “ abandon to their fate those wounded men, where it appears
 “ necessary, than to undertake it; and I own I am of the same
 “ opinion with them: If, nevertheless, a case occurred, wherein
 “ the death of the patient was certain, if amputation was not
 “ performed, I would even *prefer* taking off the limb at the
 “ articulation *rather than at any other place.*”

The reason which M. Bilguer gives for this is as extraordinary:

by the names of the Lumbal and Psoas Abscess,

nary: "for although it be extremely difficult, yet it prevents the inconveniences and accidents which a stump might occasion."

M. Bilguer's annotator seems determined not to be behind hand with his author, part of his note on the preceding passage being as follows — "I am of opinion that if any one had the misfortune of being reduced to the necessity of chusing between amputation at the upper part of the thigh, or at the articulation itself, one reason for preferring the latter would be, the greater ease there is in stopping the hæmorrhage of the crural artery."—Very extraordinary doctrine this!

That amputation in the joint of the hip is not an impracticable operation (although it be a dreadful one) I very well know: I cannot say that I have ever done it, but I have seen it done, and am now very sure I shall never do it unless it be on a dead body.—The parallel which is drawn between this operation, and that in the joint of the shoulder, will not hold.—In the latter it sometimes happens, that the caries is confined to the head of the os humeri, and that the scapula is perfectly sound and unaffected. In the case of a carious hip joint, this never is the fact; the acetabulum ischii, and parts about, are always more or less in the same state, or at least in a distempered one, and so indeed most frequently are the parts within the pelvis—A circumstance this of the greatest consequence; for the power of performing the operation beyond the seat of the disease, and consequently of totally removing all the distempered parts, is the very decisive circumstance in favour of amputation every where but in the hips, were (to say nothing of the horridness of the operation itself) the hæmorrhage from a multiplicity of vessels, some of which are of considerable size, and the immense discharge which a sore of such dimensions must furnish, the distempered state of the parts, which cannot by the

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The third kind of disorder which I mentioned as sometimes producing the necessity of amputation, was the aneurism.

That kind of dilatation of the arterial tube, which is called a true aneurism, is sometimes found in the middle, sometimes in the upper part of the thigh, and sometimes in the ham.

The general characteristic marks of this distemper are, a circumscribed tumor, small at its first appearance, but gradually increasing, and for some length of time having a pulsatory motion and feel exactly correspondent with the patient's pulse at the wrist; this pulsation arising from the motion of the blood from the heart through the artery, is very easily seen and felt for some length of time, but as the tumor becomes gradually larger, the pulsation in it becomes more and more obscure to the touch, and in length of time, when either the artery is dilated to a very considerable size, or has burst, and has shed part of its contents, the motion becomes in some cases so obscure as hardly to be felt at all, or at least not without very diligent attention. When it has got into this

operation be removed, will render it ineffectual, bold and bloody as it must be.

state,

state, whether it be femoral or poplitean, the lower part of the limb becomes, by the pressure of the extravasated blood, and by the obstruction to the circulation through the dilated artery, considerably loaded, and swollen, unfit for use or motion, and generally very painful.

This is the state, or very nearly the state, in which we most frequently see it, especially among the labouring poor, who generally neglect it until it renders them lame and incapable of following their employment; and when it is got into this state, it requires immediate attention.

In what manner is this disease, when got to this point, to be treated; or how is the cure of it to be attempted; for if something be not done, the limb will become mortified and the patient will perish.

If a man was to answer from theory, he would say, that the skin is to be divided, the extravasated blood to be cleared away, and the artery to be tied above and below the dilatation—in short, that what is called the operation for the aneurism, is to be performed. Sorry I am to find myself obliged to say,

that as far as my observation and experience go, such operation, however judiciously performed, will not be successful, that is, will not save the patient's life.

In both these aneurisms, the femoral and the poplitean, it most frequently happens, that the artery is not only dilated and burst, but it is also distempered some way above the dilatation, particularly in the poplitean. This may very probably be one reason why the ligature is in general so unsuccessful. The want of collateral branches of sufficient size to carry on the circulation, is another very powerful impediment. Whether these may be allowed sufficient to frustrate the attempt by the operation, I will not take upon me to say; but certain I am, that it does not succeed: I have tried it myself more than once or twice; I have seen it tried by others; but the event has always been fatal: excessive pain, a high degree of symptomatic fever, great tension of the whole limb, rapidly tending to gangrene, and ending in mortification both upwards and downwards, have destroyed all those whom I have seen on whom the operation

ation of tying the artery has been practised.

Nor have I ever seen any other operation than that of amputation, which has preserved the life of the patient.

To this an objection has been made by some, which, if it was founded in fact, would be a very valid one. It has been said, that the aneurism in the thigh, or ham, is very seldom the only one which the patient labours under, and that he most frequently has the same kind of dilatation either of the aorta, or of some of the larger vessels within the body. This is urged as a reason against amputation in this disease; they who maintain this opinion, very justly observing, that it cannot be of any use to cut off a patient's leg for a femoral, or a poplitean aneurism, who will, in all probability, be destroyed very soon by the same kind of disease in another part of him.

If the datum was true, the inference would be just; but it is not. When I say that it is not true, I mean that it is not constantly or necessarily, or even generally so, as I can from repeated experience affirm, having several times performed the operation

ation of amputation for both these, on people who have lived several years after, without any symptoms of the same kind of disease in any other part of them. Indeed, the determination for an operation when a poplitean aneurism is arrived to the state which I have just described, is hardly to be called a matter of choice: it is indeed a matter of absolute necessity. When the swelling from the extravasated blood is become so large, that the pulsatory feel of the artery is rendered very obscure, the whole limb below is exceedingly loaded and swollen, the return of the fluids, both by the veins and by the lymphatics, so very difficultly executed, that the patient gets little or no rest from the constant pain, and if some relief be not obtained, and that speedily, from the art of surgery, gangrene and mortification are the inevitable consequences.

The means of relief are two—and two only; the operation of amputation, and that of tying the artery above and below the diseased part.

The operator undoubtedly may make his choice between them, and follow the dic-
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tates of his own judgment, and his own experience; but it must be worth his while to observe, that for the success of the latter, a free circulation through all the inferior part of the limb, seems to be a very necessary circumstance, and that when the load, and pressure, and obstruction, are become so great as even to threaten gangrene and mortification, which is frequently the case, such free circulation is not much to be expected; but, on the contrary, all the evils arising from a very obstructed one, and that through distempered parts.

There is another kind of complaint affecting the leg, removeable (as far as my experience goes) by amputation only, which is one reason why I mention it in this place, and to which I might add another reason, which is, that it either derives its origin from a bursten artery, or at least is always accompanied by it.

I know no name to give it, or under what class to range it, but will describe it in the best manner I can.

It has its seat in the middle of the calf of the leg, or rather more toward its upper part, under the gastrocnemius and soleus

muscles: it begins by a small, hard, deep-seated swelling, sometimes very painful, sometimes but little so, and only hindering the patient's exercises; it does not alter the natural colour of the skin, at least until it has attained a considerable size; it enlarges gradually, does not soften as it enlarges, but continues through the greatest part of it incompressibly hard, and when it is got to a large size, it seems to contain a fluid which may be felt towards the bottom, or resting, as it were, on the back part of the bones. If an opening be made for the discharge of this fluid, it must be made very deep, and through a strangely distempered mass. This fluid, is generally small in quantity, and consists of a sanies mixed with grumous blood: the discharge of it produces very little diminution of the tumor, and in a few cases which I have seen, very high symptoms of irritation and inflammation come on, and advancing with great rapidity, and most exquisite pain, very soon destroy the patient, either by the fever, which is high and unremitting, or by a mortification of the whole leg.

If amputation has not been performed,
and

and the patient dies, after the tumor has been freely opened, the mortified and putrid state of the parts, prevents all satisfactory examination; but if the limb was removed without any previous operation (and which, as far as my experience goes, is the only way of preserving the patient's life,) the *arteria tibialis postica* will be found to be enlarged, distempered, and burst; the muscles of the calf of the leg to have been converted into a strangely morbid mass, and the posterior part of both the tibia and the fibula more or less carious.

The fourth kind of distemper which I mentioned, as being sometimes productive of the necessity of amputation, is a caries of the whole bone or bones forming a limb. By this I would be understood to mean a caries possessing not only the surface of such bones, but the whole internal substance, and that from end to end. This I take to be the very individual case, in which both M. Bilguer, and M. Tiffot, have reprobated amputation, and which the former has mentioned in his fifth article, under the title of Incurable Caries.

The terms in which M. Bilguer has

chosen to express himself, are rather unfortunate.

After having mentioned three or four different distempers, in which, in certain cases, and under certain circumstances, amputation has in general been thought necessary and right, and in which he is of a totally different opinion, he adds—An *incurable* caries of the bones, which *incurable* caries, he says, ought not to be amputated, because there is a method of curing it.

If this was merely a blunder in language and went no farther, it would be a matter of little importance; but it is a serious piece of advice, delivered authoritatively, and by a writer who professes to correct the errors both of his predecessors and contemporaries, therefore it should not be merely laughed at; and as it is an advice which is not built on fact, and which is fraught with mischief to mankind, it ought to be contradicted.

That bones become carious from a variety of causes, such as the struma, the lues venerea, deep-seated imposthumation, pressure, &c. is well known to every body; and that such carious bones properly treated will

exfoliate, and cast off their rotten parts, is as well known; but when in some particular habits, whether scrophulous, scorbutic, or cancerous, the whole substance of the bone becomes diseased, not only on its surface, but through its whole internal medullary texture, and that from end to end, the same means, be they what they may, will not avail. The use of the scalper, the raspatory, and the rugine, for the removal of the diseased surface of bones; of the trephine, for perforating into the internal texture of carious ones, and of what are called exfoliating applications, are as well known, I presume, to every practitioner, as to M. Bilguer; but giving to these all their real or their supposed merit, still I affirm, and that from repeated experience, that there are cases of caries, in which none of these will succeed, though ever so judiciously used; that neither by these, nor by any other means, can an exfoliation be obtained; and that, unless the whole bone be removed by amputation, the patient will perish.

The metaphor, or simile, by which M. Bilguer endeavours to illustrate his meaning, is somewhat singular: he says, “The real

“ method of doing service to bones consum-
“ ed by caries, is like what happens to
“ boards joined together by nails: if you
“ make them excessively dry, the nails fall
“ out of themselves,” &c.

Now admitting, what I think will not be admitted, that this simile conveys a just and true idea of the manner in which the rotten parts of bones are separated from the sound, yet it necessarily implies, that in these very bones there are some sound part or parts, from which the rotten are to be dried off, in order to loosen the nails, and that the existence of such sound parts is the sine qua non of the cure.

It may, perhaps, in answer to this be said, that proper treatment, external and internal, may so alter and correct even the carious part of a bone, as to render it capable of parting with the rest, and thereby of becoming sound. I say, admitting this, which is not in general admissible, yet it sometimes happens, that there is not time for such experiment, and that even in very young subjects, the whole habit is, by the rotten bone, so poisoned and spoiled, that a hectic fever of the putrid kind, with all its horrid train
of

of horrid symptoms, will, in spite of all the efforts of physic and surgery, in spite of bark and every other specific, in spite of drying, burning, rasping, and boring, come on, and in a very short space of time destroy the patient, unless rescued by amputation, which alone can remove a whole bone.

I have as high an opinion of, and as just a reverence for, both branches of the medical art, as any man; but I also know, that they are both in many instances exceedingly unequal to our expectations, and very much limited.

This is a disagreeable and an unfortunate truth, but still it is a truth, and so much so, that whoever professes a contrary opinion, is either much deceived himself, or inclined to deceive others.

R E M A R K S

ON THAT KIND OF

P A L S Y

OF THE

L O W E R L I M B S,

WHICH IS FREQUENTLY FOUND TO ACCOMPANY

A CURVATURE OF THE SPINE,

AND IS SUPPOSED TO BE CAUSED BY IT,

TOGETHER WITH ITS

M E T H O D O F C U R E.

TO WHICH ARE ADDED,

OBSERVATIONS ON THE NECESSITY AND
PROPRIETY OF AMPUTATION,

IN CERTAIN CASES,

AND UNDER CERTAIN CIRCUMSTANCES.

TO

DR. JOHN LEWIS PETIT,

ONE OF THE PHYSICIANS TO

ST. BARTHOLOMEW'S HOSPITAL,

THE FOLLOWING

T R A C T S

ARE INSCRIBED,

AS A

SMALL MARK OF THE

GREAT ESTEEM AND REGARD OF

THE AUTHOR.

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R E M A R K S, &c.

AMONG the various objects of Physic and Surgery, there are unfortunately some, in which all the efforts of both have hitherto been found absolutely ineffectual, and which therefore have always made a very disagreeable, and melancholy part of practice.

To remove, or even to relieve any of the miseries to which mankind are liable, is a very satisfactory employment; but to attend on a distemper from its beginning, through a long and painful course, to its last, fatal period, without even the hope of being able to do any thing which shall be really serviceable, is, of all tasks, the most unpleasant.

In such cases, any attempts, however hazardous, provided they were rational, would be justifiable; certainly then, whatever is not in itself dangerous, and affords the smallest ray of hope, ought to be embraced.

Some

Some little time ago I gave to the public an account of the success which I had seen attend the free use of opium in mortifications of the toes and feet; particularly in those which began, or were attended with great pain.

In that publication I merely related the fact, as it had happened under my own eye; I entered into no reasoning about it; nor did I give to the medicine any greater degree of credit than it appeared to me to deserve; I did not propose it as a certain specific, or as a remedy whose success was always and infallibly, or indeed even generally to be depended upon; I acknowledged, that I had several times seen it fail; but as I had also several times seen it succeed, as I was very sure that no hazard could possibly attend the experiment, and, as the best and most experienced practitioners were obliged to allow, that they were not yet acquainted with any means whereby they were enabled to prevent the fatal effects of this most horrid distemper, or even to retard its daily and painful ravages, I thought it my duty to make known as early as I could, what I had seen, that others might make the same trial, and thereby pro-

pagate the benefit. Had any other means of relief been known to the faculty, and this had therefore appeared to me only in the light of another, or a preferable one, I should certainly have withheld my observations, until more time had verified and confirmed them, and thereby have proved the superior utility of what I had to propose: but as the fact was directly the contrary, as opium was the only medicine which I had ever seen prove really, and essentially serviceable; as it had succeeded so often, and to such a degree, as to satisfy me that much good might be expected from it; and as I was perfectly sure that not the least degree of hazard could attend the trial, I thought that such publication, though early, could not be regarded in any other light than its true one; I mean that of a request to the profession in general to repeat the experiment; and that therefore it could not be justly deemed premature. If upon repeated trial the success should not be found equal to what I thought I had good reason to expect, no harm could accrue to the patient; if it should answer my expectation, it would serve the most valuable of all purposes.

Since

Since that time I have had the satisfaction of having my opinion confirmed, not only by my own experience, but by the concurrent testimony of several practitioners of eminence in different parts of the kingdom, who have done me the favour to communicate to me the result of their experiments: the success of these, as I expected, from what I had seen, has not been constant, but it has been so frequent, as to make me very well pleased at having furnished the hint. I sincerely wish that the good effect was more general and more certain; but the preservation of even a few, from a malady, found hitherto to have been inevitably destructive to all, is a matter of some importance, and furnishes no unpleasing reflection.

I now do the same thing, relative to another disorder, which I then did with regard to the mortification. I publish an account of the good success which has attended a particular method of treating a disease, which has hitherto foiled all the efforts of art; and as I do it now from the same principle which I did then, viz. that of inducing others, by making the same experiment, to propagate the benefit, I make no apology for another early publication.

The

The disease of which I mean to speak, is generally called a palsy; as it consists in a total or partial abolition of the power of using, and sometimes of even moving the lower limbs, in consequence; as is generally supposed, of a curvature of some part of the spine.

To this distemper both sexes; and all ages; are equally liable. If the patient be an infant, it becomes an object of constant; though unavailing distress to its parents; if an adult, he is rendered perfectly helpless to himself; and useless to all others, which, of all possible states, is surely the very worst.

When this disease attacks an infant of only a year or two old, or under, the true cause of it is seldom discovered until some time after the effect has taken place; at least not by parents and nurses, who know not where to look for it. The child is said to be uncommonly backward in the use of his legs; or it is thought to have received some hurt in its birth.

When it affects a child who is old enough to have already walked, and who has been able to walk, the loss of the use of his legs is gradual, though in general not very slow.

He at first complains of being very soon tired, is languid, listless, and unwilling to move much, or at all briskly; in no great length of time after this he may be observed frequently to trip, and stumble, although there be no impediment in his way; and whenever he attempts to move briskly, he finds that his legs involuntarily cross each other, by which he is frequently thrown down, and that without stumbling; upon endeavouring to stand still and erect, without support, even for a few minutes, his knees give way and bend forward. When the distemper is a little farther advanced, it will be found that he cannot, without much difficulty and deliberation, direct either of his feet precisely to any exact point; and very soon after this, both thighs and legs lose a good deal of their natural sensibility, and become perfectly useless for all the purposes of locomotion. When an adult is the patient, the progress of the distemper is much the same, but rather quicker.

Until the curvature of the spine has been discovered, it generally passes for a nervous complaint; but when the state of the back bone has been adverted to, recourse is almost

always

always had to some previous violence to account for it; some pulling, lifting, carrying, or drawing a heavy body, which is supposed to have hurt the back. In some few instances, this exertion may have been such, as might be allowed to have been equal to the effect; but, in by much the majority, this is so far from being the case, that if it be admitted to have had any share at all in it, some predisposing cause, at least, must be looked for, in which (in my opinion) consists the very essence of the disease.

I have, in compliance with custom, called the disease a palsy; but it should be observed that notwithstanding the lower limbs be rendered almost, or totally useless, yet there are some essential circumstances in which this affection differs from a common nervous palsy; the legs and thighs are, I have just said, rendered unfit for all the purposes of locomotion, and do also lose much of their natural sensibility, but notwithstanding this, they have neither the flabby feel, which a truly paralytic limb has, nor have they that seeming looseness at the joints, nor that total incapacity of resistance, which allows the latter to be twisted in almost all directions:

on the contrary, the joints have frequently a considerable degree of stiffness, particularly the ancles, by which stiffness the feet of children are generally pointed downward, and they are prevented from setting them flat upon the ground.

The curvature of the spine, which is supposed to be the cause of this complaint, varies in situation, extent and degree, being either in the neck or back, and sometimes (though very seldom) in the upper part of the loins; sometimes comprehending two vertebræ only, sometimes three, or more, by which the extent of the curve becomes necessarily more or less; but whatever may be the number of vertebræ concerned, or whatever may be the degree or extent of the curvature, the lower limbs only feel the effect—at least I have never once seen the arms affected by it.

This effect is also different in different subjects: some are rendered totally and absolutely incapable of walking in any manner, or with any help, and that very early in the course of the distemper; others can make a shift to move about with the help of crutches, or by grasping their own thighs with their hands; some can sit in an erect posture, or
in

in a chair, without much trouble or fatigue, which others are incapable of, at least for any length of time; some have such a degree of motion in their legs and thighs, as to enable them to turn and move for their own convenience in bed, others have not that benefit, and are obliged to lie till moved by another.

When a naturally weak infant is the subject, and the curvature is in the vertebræ of the back, it is not infrequently productive of additional deformity, by gradually rendering the whole back what is commonly called humped; and by alterations which all the bones of the thorax sometimes undergo, in consequence of the flexure and weakness of the spine, by which such persons are justly said to be shortened in their stature: but in all cases where this effect has been gradually produced, to whatever degree the deformity may extend, or however the alteration made in the disposition of the ribs and sternum may contribute to such deformity, yet I think that it will always be found, that the curvature of the spine appeared first, and, if I may so say, singly, and that all the rest was consequential.

While the curvature of the spine remains undiscovered or unattended to, the case is generally supposed to be nervous, and medicines so called are most frequently prescribed, together with warm liniments, embrocations, and blisters, to the parts affected; and when the true cause is known, recourse is always had to steel stays, the swing, the screw chair, and other pieces of machinery, in order to restore the spine to its true and natural figure; but all, as far as I have observed, to no real or permanent good purpose: the patient becomes unhealthy, and, languishing for some time under a variety of complaints, dies in an exhausted, emaciated state; or, which is still worse, drags on a miserable existence, confined to a great chair, or bed, totally deprived of the power of locomotion, and useless both to himself and others.

This in an infant is most melancholy to see, in an adult most miserable to endure.

The general health of the patient does not seem at first to be materially, if at all, affected; but when the disease has been some time, and the curvature thereby increased, many inconveniences and complaints come

on,

on, such as difficulty in respiration, indigestion, pain, and what they all call tightness at the stomach, obstinate constipations, purgings, involuntary flux of urine and fæces, &c. with the addition of what are called nervous complaints; some of which are caused by the alterations made in the form of the cavity of the thorax, others seem to arise from impressions made on the abdominal viscera. These are different both in kind, and in degree, in different subjects, but seem to depend very much on the consequences of the curvature—that is, in naturally infirm children, although the curvature of the dorsal vertebræ is always the first mark of the distemper, by preceding every other, yet it is frequently soon followed by such a degree of deformity of the bones of the trunk, as to be, in conjunction with the necessary inactivity and confinement of the patient, productive of all the ills above-mentioned.

An affecting instance of this distemper in the person of a very promising youth of fourteen years old, with whose family I was nearly connected, induced me to think more of it than perhaps I otherwise should have done; and

the restoration of the use of his limbs, immediately after a seemingly accidental abscess near the part, engaged my attention still more, and became a matter of frequent, though not very satisfactory contemplation; I say unsatisfactory, because it served only to increase my doubts, without leading me toward a solution of them. The more I thought upon the subject, the more I was inclined to suspect that we had been misled by appearances, and that a distempered state of the parts forming, or in the neighbourhood of curvature, preceded, or accompanied it: in short, that there was something predisposing, and that we had most probably mistaken an effect for a cause.

For these suspicions, I had the following reasons, which appeared to me to have some weight;

1. That I had never seen this paralytic effect on the legs from a mal-formation of the spine, however crooked such mal-formation might have rendered it, or whether such crookedness had been from time of birth, or had come on at any time afterwards during infancy.

2. That none of those strange twists and deviations,

deviations, which the majority of European women get in their shapes, from the very absurd custom of dressing them in stays during their infancy, and which put them into all directions but the right, ever caused any thing of this kind, however great the deformity might be.

3. That the curvature of the spine, which is accompanied by this affection of the limbs, whatever may be its degree, or extent, is at first almost always the same, that is, it is always from within, outward, and seldom or never to either side.

4. That since I had been particularly attentive to the disorder, I had remarked, that neither the degree nor the extent of the curve made any alteration in the nature or degree of the symptoms at first, nor for some time after the appearance; or, in other words, that the smallest curvature, in which only two or three of the vertebræ were concerned, was always, at first, attended by the same symptoms as the largest.

5. That although it sometimes happened that a smart blow, or a violent strain had immediately preceded the appearance of the curve, and might be supposed to have given rise

rise to it, yet in many more adults it happened that no such cause was fairly assignable, and that they began to stoop, and to falter in their walking, before they thought at all of their back, or of any violence offered to it.

6. That exactly the same symptoms are found in infants, and in young children, who have not exerted themselves, nor have been injured by others, as in the adult, who has strained himself, or received a blow; and that the case was still the same in those grown people, who have neither done, nor suffered any act of violence.

7. That although it must be allowed, that a dislocation of any of the vertebræ, would most probably be attended with the same kind of symptoms from the pressure it must make on the spinal marrow, yet it is also most probable that such symptoms would be immediate, and attended with great pain in the part; neither of which is in general the case here.

These considerations appeared to me to have much force; but what confirmed me in my opinion was the state of the parts forming the curvature, and which I had
several

several fair opportunities of examining after death. By these examinations I found, in infants, in young children, and in those who had been afflicted with the disorder but a small space of time, that the ligaments connecting the vertebræ, which formed the curve, were in some degree altered from a natural state, by being somewhat thickened and relaxed, and that what are called the bodies of those bones, were palpably spread and enlarged in their texture, just as the bones forming the articulations are in children who are called ricketty. That in those who had long laboured under the distemper, and in whom the symptoms were aggravated, whatever might be their age, the ligaments were still more thickened, relaxed, and altered, the bodies of the bones more spread, more enlarged, and more inclining to become carious, and the cartilages between the bodies of the vertebræ much compressed and lessened in size; and that in all those who had so long laboured under the disease, as to have been destroyed by it, or by its consequences, the corpora vertebrarum were completely carious, the intervening cartilages totally destroyed, and
a quantity

a quantity of sanies lodged between the rotten bones, and the membrane investing the spinal marrow^a.

All these circumstances put together, induced me, as I have already said, to suspect, that when we attribute the whole of this mischief to the mere accidental curvature of the spine, in consequence of violence, we mistake an effect for a cause; and that previous both to the paralytic state of the legs, and to the alteration of the figure of the back bone, there is a predisposing cause of both, consisting in a distempered state of the ligaments and bones, where the curve soon after makes its appearance.

While the subject was fresh in my mind, I happened to be at Worcester, and in a conversation on it with the late Doctor Cameron of that place, I mentioned to him my opinion, and my doubts: the Doctor concurred with me, and at the same time mentioned a circumstance, which made a strong impression on me. He said, that he

^a In the body of a man who died not long since, of this disorder, in its last and worst state, the bodies of three of the vertebræ were not only quite carious, but completely separated from all connexions with the other parts of the same vertebræ.

remembered some years ago, to have noted a passage in Hippocrates, in which he speaks of a paralysis of the lower limbs being cured by an abscess in the back or loins; and that taking the hint from this, he, Dr. Cameron, had, in a case of a palsy of the legs and thighs, attended by a curvature of the back bone, endeavoured to imitate this act of nature, by exciting a discharge near the part, and that it had proved very advantageous. He also referred me to Mr. Jeffrys, a surgeon of eminence at Worcester, for a farther account of the same kind of attempt: this gentleman confirmed what Dr. Cameron had told me, and assured me that he had found the method equally successful.

It may easily be supposed, that these accounts from gentlemen of veracity, and of reputation in their profession, still added to my desire of knowing more on this subject, and determined me to lose no opportunity of getting information.

The first that offered was in an infant, whose curvature was in the middle of the neck, and who had lost the use of its legs for about two or three months. I made an issue by incision on one side of the projection,

jection, and gave strict charge to the mother to take care that the pea was kept in; the woman, who had no faith in the remedy, did not take the proper care, and consequently the discharge was not equal to what it should, and might have been; but notwithstanding this neglect, at the end of about three weeks or a month the child was manifestly better, and began to make use of its legs; it was then seized with the small-pox, and died. The bodies of the vertebræ concerned in the curve were larger than they should be, and than those above and below were, and their texture much more open and spongy; which difference appeared immediately, before the parts covering them were dissected off.

Some time passed before I had another opportunity. My next patient was a tall thin man, about thirty-five years old, who thought that he had hurt himself by lifting a heavy weight: his legs and thighs were cold, and what he called nummy, but not absolutely useless: he could with difficulty go about the room with the help of a pair of crutches, but he could neither rise from his chair, nor get on his crutches, without
the

the assistance of another person, nor could he without them walk at all.

I made a seton on each side of the curve, which was in his back, about the middle; and having given his wife directions how to dress them, I called on him once in three or four days. At the end of six weeks he had recovered the due degree of sensation in his limbs, and found much less necessity for the use of his crutches; he could rise from his bed and from his chair without assistance, and by means of one crutch, and an under-hand stick, could walk for an hour, or more, without resting, and without fatigue. The setons had now, from not having been properly managed, worn their way out, and I would have converted each of them into an issue, but as neither the patient nor his wife had ever believed that the discharge had had any share in his amendment, but on the contrary that he would have been better without it, he would not submit to what I proposed, and I left him. At the distance of about three weeks from the time of my leaving him, I met him in the street walking very stoutly, with a common cane, of which he made little or no use. I asked him what
he

he had done: he told me that the sores had continued to discharge till within a few days; but that he had drank a great deal of comfrey-root tea, with isinglass, and he supposed that had cured him.

I believe that the cure of this man will, by all who know any thing of medicine, be thought to be so unlikely to have been effected by the comfrey and isinglass, that my inference in favour of the seton will not be thought unreasonable, and that my determination to prosecute the method; from what I had heard and seen, was well founded.

Within the course of the last ten or twelve months, I have had several fair opportunities of doing this, both in St. Bartholomew's hospital, and out of it; and am very happy to be able to say, that it has not only always answered, but in some instances greatly exceeded my most sanguine expectations, by restoring several most miserable and totally helpless people to the use of their limbs, and to a capacity of enjoying life themselves, as well as of being useful to others.

I have now in the hospital a boy about
twelve

twelve years old, whose case was so truly deplorable, that I made the experiment merely to avoid the appearance of inhumanity, by discharging him as incurable, without trying something. The curvature was in his back, and consisted of three or four vertebræ; but by means of the weakness thereby induced, the whole set of dorsal ones had so universally and gradually given way, that he was exceedingly deformed both behind and before: he was so absolutely incapable of motion, that he could neither turn himself, nor sit up in his bed: his feet were pointed downwards, and his ancles so stiff, that when he was held up under the arms, the extremities of his great toes touched the floor, nor could his feet be brought flat to the ground by any means, or force whatever. In short, he was as perfectly and as totally helpless as can be supposed; and at the same time in an exceeding general bad state of health, from disorders of the thoracic and abdominal viscera. In this state he had been more than a year: it is now about three months since the caustics were applied; he is become healthy, and free from most of his general complaints, has

the most perfect use of his legs while he is in bed, can walk without the assistance of any body, or any thing to hold by; and from his manner of executing this, will, I make no doubt, in a very short space recover perfectly the use of his legs.—To this I ought to add, that notwithstanding a considerable degree of deformity does, and I suppose will, remain, yet the spine in general is so much strengthened, that he is some inches taller than he was four months ago.

The remedy for this most dreadful disease consists merely in procuring a large discharge of matter, by suppuration, from underneath the *membrana adiposa* on each side of the curvature, and in maintaining such discharge until the patient shall have perfectly recovered the use of his legs. To accomplish this purpose, I have made use of different means, such as setons, issues made by incision, and issues made by caustic; and although there be no very material difference, I do upon the whole prefer the last. A seton is a painful and a nasty thing; besides which, it frequently wears through the skin before the end for which it was made can be accomplished: issues made by incision, if they be large enough

enough for the intended purpose, are apt to become inflamed, and to be very troublesome before they come to suppuration; but openings made by caustic are not in general liable to any of these inconveniences, at least not so frequently, nor in the same degree: they are neither so troublesome to make or to maintain. I make the eschars about this size and shape on each side the curve, taking care to leave a sufficient portion of skin between them: in a few days, when the eschar begins to loosen and separate, I cut out all the middle, and put into each a large kidney-bean: when the bottoms of the sores are become clean by suppuration, I sprinkle every third or fourth day, a small quantity of finely powdered cantharides on them, by which the sores are prevented from contracting, the discharge increased, and possibly other benefit obtained. The issues I keep open until the cure is complete, that is, until the patient recovers perfectly the use of his legs, or even for some time longer; and I should think that it would be more prudent to heal only one of them first, keeping the other open for some



time; that is, not only until the patient can walk, but until he can walk firmly, briskly, and without the assistance of a stick; until he can stand quite upright, and has recovered all the height, with the habit, or rather the necessity of stooping, occasioned by the distemper, had made him lose.

I have said that the discharge by means of the issue, is all that is requisite for a cure; which is true, as I have experimentally proved by not using any other, in cases which have succeeded perfectly: but this fact being established, there is no reason why every assistant means should not be applied at the same time, in order to expedite: such as bark, cold-bathing, frictions, &c.

That the patient becomes more upright as his legs become stronger, is certain, and therefore appears taller, as well as straighter in proportion, as the whole spine strengthens; but whether the curvature will always and totally disappear, I am not yet able to say with certainty. In two late instances, both adults, it has; but the deformity which, in weak infants and children, is often the consequence of the curvature, and of the state of the spine at that place, must in some degree, I

fear, be expected to remain; but of this I am not yet able to speak with absolute certainty. There are few other circumstances, of no great moment perhaps, but which will require more time to ascertain than I thought should be suffered to pass, before mankind were made acquainted with the great means of relief, in so distressing, so melancholy, and so dreadful a malady: for the reader will be pleased to remember what I told him at the beginning of this tract, which was, that my motive for publishing this account sooner than might appear in general to be right, or indeed than I otherwise should have done, was a desire that as little time as possible might be lost, in conveying to the profession in particular, and to mankind in general, the means of relief under an affliction, which, till these were known, has not admitted of any: and this I was still more incited to do, because the remedy is as harmless, and as void of hazard, as it is efficacious.

IN the preceding tract I have related the appearances which the parts constituting the seat of the distemper make upon examination after death ; or, to speak more properly, the different states of these parts in different persons, and at different periods of this disease. These, though necessarily subject to considerable variety, may, I think, be reduced to three general ones.

1. A small degree of an increase of size in the bodies of the vertebræ, forming the curve, with an apparent laxity in their texture, and a relaxed state of the connecting ligaments, by which they seem to have lost part of their power of holding the bones together.

2. A more considerable, and more apparent enlargement of the same parts of the vertebræ, whose spongy texture becomes more visibly spread through their whole substance, and tending towards a caries, with an apparently distempered state, both of the ligaments, and of the intervening cartilages.

3. A truly carious state of the bodies of the bones ; a dissolution, or destruction
of

of the cartilaginous substance between them; and a lodgment of sanies on the surface of the membrane enveloping the spinal marrow.

These are I think the most particularly different states or stages of the disorder, and are such as, in my opinion, decisively mark the true nature of it.

Between these in different persons, and under different circumstances, there must be a considerable variety, but the material difference will be only in degree.

From the whole, the few following practical inferences seem fairly deducible.

1. That the disease does not originally consist in a displacement of the vertebræ, made by violence, the bones and ligaments being previously in a sound and uninjured state; but in such a morbid alteration of the texture of both, as will, if not timely prevented, produce curvature and caries, with all their consequences.

2. That the proper remedies for this disease cannot be applied too soon.

3. That the restoration of the spine to its natural figure, depends much on the early administration of the help proposed.

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4. That

4. That although the distemper may be so far cured, that the patient may perfectly recover the use of his legs, yet such an alteration may have taken place in the bodies of the vertebræ, as to render it impossible for the spine to become straight again.

5. That when three or four, or more vertebræ, are concerned in the curve, the trunk of the body will have so little support from that part of the spine which is not distempered, that no degree of deformity can be wondered at; nor can it be expected that such deformity should be removed, whatever other benefit, such patient may receive.

6. That if from inattention, from length of time, or from any other circumstances, it happens that the bodies of the vertebræ become completely carious, and the intervening cartilages are destroyed, no assistance is to be expected from the proposed remedy.

To these I will take the liberty of adding, that it appears to me well worth while, to try what a large and free discharge, made for a length of time from the vicinity of the distempered part, might be capable of doing in the very beginning of what are
commonly

commonly called scrophulous joints ; which, when arrived to a certain point, baffle all our art, and render a painful and hazardous operation absolutely necessary.

Within these last six or eight months, several cases of curved spine have been received into St. Bartholomew's hospital, where they have been seen by great numbers of the profession. The novelty of the treatment, and the success which has hitherto constantly attended it, has necessarily engaged the attention of many, and occasioned some conversations on the subject. In some of these it has been said, that as it appears to be undeniably a disease of the bony texture of the bodies of the vertebræ, it may be apprehended, that the relief expected from the caustics, may, in some cases, fail, and in others may not prove permanent ; and, that the same kind of constitution remaining, a return of the malady may not unreasonably be feared.

To this I can only answer, that although I have called this an early publication, yet I have waited a sufficient length of time, and have treated a sufficient number of subjects, to be clear in the truth of what I have

have asserted, as far as such time, and such individuals go. That the patients whom I have attended in the early part of the distemper, of whatever age, have all got well: that is, have all not only regained the use of their legs, but have become healthy, and fit for any exercise or labour, as numbers can testify, who have seen them daily. Most of them have become much straighter, some quite straight, and all of them perfectly free from all kind of inconvenience arising from the curve.

That in all the infants whom I have seen, the general health of the patient has always been restored in proportion to the restoration of the use of the limbs.

That I must suppose all this to have been done by the discharge from the caustics, because in many of them no other means of any kind have been made use of.

That as far as my experience goes, I have not the least doubt, that if the means proposed be made use of before the bones are become really carious and rotten, they will always be successful. When indeed a truly rotten state of the bones takes place, no good is to be expected from this or from any
thing

thing else: but it should be observed at the same time, that this never happens but when the distemper is of very old date, and that when this is the case, the whole machine is so disordered, and the patient so truly and so generally distempered, that there can be no reasonable expectation of success from any thing.

To this I must take the liberty of adding, that what I have affirmed, is what I have seen and proved, and that the objections are merely speculative and theoretical. However, supposing them to be not quite unreasonable, the most useful inference to be drawn from them is, that the same remedy by which so great and so evident relief is obtained, ought to be continued, while there may be any fear of return of the mischief; and that every other means for the restoration of health and strength should at the same time be made use of; both which coincide absolutely with my own opinion and advice.

F A R T H E R

R E M A R K S

ON THE USELESS STATE OF THE

L O W E R L I M B S,

IN CONSEQUENCE OF A

CURVATURE OF THE SPINE.

FARTHER

R E M A R K S, &c.

IT is now near three years since I first troubled the public with my observations on the disease which makes the subject of the following tract.

The apology which I then made, for what I was perfectly aware might be thought a premature publication, was, that the distemper to which it related was supposed to be incapable of receiving any relief from art; and that they who were afflicted with it were therefore deserted, and left to linger out a most miserable existence; but, that from the benefit which I had seen to be derived from a particular, and at the same time a perfectly safe method of treating it, I thought that it demanded the immediate and serious regard of the profession.

Previous to the publication, I had considered the disease with some attention, and
had

had made some experiments on it, which, although not many, were sufficient in number, and had been attended with such a degree of success as to satisfy me, that it was a subject in which mankind was much interested; but as I did not think that any one man's experience, be it what it might, was sufficient to determine a matter of so much importance, I wished that the faculty at large might be made acquainted with what I had seen and done, that they might be induced to make the same experiment, and thereby either contradict or confirm what I had said; if the former should be the result, my proposition would soon meet with the neglect which it would deserve; I could only console myself with the rectitude of my intention, and be sorry for my mistake: but if, on the contrary, the attempts of others, should prove as successful as mine, it appeared to me, that the chirurgic art would make a great acquisition, as it would be thereby furnished with the means of relieving one of the most distressing maladies to which human nature is liable; a malady which, when it befalls an adult, makes him completely miserable, by depriving him of all power of being useful
to

to himself or others; a malady which, when an infant becomes its victim, renders all the care and tears, all the tenderness and anxiety of the fondest parent absolutely unavailing, and a malady for which it was supposed, there was no remedy.

These were my reasons for hazarding my opinion so hastily: the importance of the subject, and the perfect safety of the experiment, were, as I thought, a sufficient excuse for so doing.

My wishes, and my expectations, have been most pleasingly fulfilled. I have received such manifold and repeated testimony of the success of the proposed method, from so large a number of the most eminent practitioners, not only in this town and kingdom, but in many other parts of Europe: that these, added to my own experience, have completely satisfied me, and enabled me to say, that in proper cases, and under proper treatment, I have no doubt of its being universal.

In all the time which has passed since the first publication, I have sought and embraced every opportunity of obtaining information, both from the living and from the

dead; and I have requested and received the assistance of many friends, whose civilities, and whose information, I take this opportunity of acknowledging.

By these means I have been enabled to correct several errors, and to make some additional observations, which I hope may not only elucidate the original subject, but may serve other equally valuable purposes. Truths built on observation and experience, seldom stand single; they generally lead to others, and become the means of more diffusive knowledge.

THE Disease, of which I am to speak, is a disease of the Spine, producing an alteration in its natural figure, and not unfrequently attended with a partial, or a total loss of the power of using, or even of moving, the lower limbs.

From this last circumstance, (the loss of the use of the limbs) it has in general been called a Palsy, and treated as a paralytic affection;

tion; to which it is in almost every respect perfectly unlike.

The occasion of the mistake is palpable; the patient is deprived of the use of his legs, and has a deformed incurvation of the spine; the incurvation is supposed to be caused by a dislocation of the vertebræ; the displaced bones are thought to make an unnatural pressure on the spinal marrow, and a pressure on that being very likely to produce a paralysis of some kind, the loss of the use of the legs is in this case determined to be such: the truth is, that there is no dislocation, no unnatural pressure made on the spinal marrow; nor are the limbs by any means paralytic, as will appear to whoever will examine the two complaints with any degree of attention.

In the true paralysis, from whatever cause; the muscles of the affected limb are soft, flabby, unresisting, and incapable of being put into even a tonic state; the limb itself may be placed in almost any position or posture; if it be lifted up, and then let go; it falls down; and it is not in the power of the patient to prevent, or even to retard its fall: the joints are perfectly and easily moveable in any direction; if the affection be of the

lower limbs, neither hips, knees, nor ancles, have any degree of rigidity or stiffness, but permit the limb to be turned or twisted in almost any manner.

In the present case, the muscles are indeed extenuated, and lessened in size; but they are rigid, and always at least in a tonic state, by which the knees and ancles acquire a stiffness not very easy to overcome; by means of this stiffness, mixed with a kind of spasm, the legs of the patient are either constantly kept stretched out straight, in which case considerable force is required to bend the knees, or they are by the action of the stronger muscles drawn across each other, in such manner as to require as much to separate them: when the leg is in a straight position, the extensor muscles act so powerfully as to require a considerable degree of force to bend the joints of the knees; and when they have been bent, the legs are immediately and strongly drawn up, with the heels toward the buttocks: by the rigidity of the ancle joints joined to the spasmodic action of the gastrocnemii muscles, the patient's toes are pointed downward in such manner as to render it impossible for him to put his foot flat to the ground:

ground: which makes one of the decisive characteristics of the distemper.

These are strong marks of the distinction which ought to be made between the two diseases; and fully sufficient to shew the impropriety of confounding them with each other.

The majority of those who labour under this disease are infants or young children: adults are by no means exempt from it, but I have never seen it at an age beyond forty.

When it attacks a child who is old enough to have walked properly, its awkward and imperfect manner of using its legs, is the circumstance which first excites attention, and the incapacity of using them at all, which very soon follows, fixes that attention, and alarms the friends.

The account most frequently given is, that for some time previous to the incapacity, the child had been observed to be languid, listless, and very soon tired; that he was unwilling to move much, or briskly; that he had been observed frequently to trip and stumble, although no impediment lay in his way; that when he moved hastily or un-

guardedly, his legs would cross each other involuntarily, by which he was often and suddenly thrown down; that if he endeavoured to stand still, and upright, unsupported by another person, his knees would totter and bend under him; that he could not with any degree of precision or certainty, steadily direct either of his feet to any particular point, but that in attempting so to do, they would be suddenly, and involuntarily brought across each other; that soon after this, he complained of frequent pains and twitchings in his thighs, particularly when in bed, and of an uneasy sensation at the pit of his stomach; that when he sat on a chair, or a stool, his legs were almost always found across each other, and drawn up under the seat; and that in a little time after these particulars had been observed, he totally lost the power of walking.

These are the general circumstances which are found, at least in some degree, and that pretty uniformly in most infants and children, but there are others which are different in different subjects.

If the incurvation be of the neck, and to a considerable degree, by affecting several
vertebræ,

vertebræ, the child finds it inconvenient and painful to support its own head, and is always desirous of laying it on a table or pillow, or any thing to take off the weight. If the affection be of the dorsal vertebræ, the general marks of a distempered habit, such as loss of appetite, hard dry cough, laborious respiration, quick pulse, and disposition to hectic, appear pretty early, and in such a manner as to demand attention: and as in this state of the case there is always, from the connexion between the ribs, sternum, and spine, a great degree of crookedness of the trunk, these complaints are by every body set to the account of the deformity merely. In an adult, the attack and the progress of the disease are much the same, but there are some few circumstances which may be learned from a patient of such age, which either do not make an impression on a child, or do not happen to it.

An adult, in a case where no violence hath been committed, or received, will tell you, that his first intimation was a sense of weakness in his back bone, accompanied with what he will call a heavy dull kind of pain, attended with such a lassitude as rendered

dered a small degree of exercise fatiguing: that this was soon followed by an unusual sense of coldness in his thighs, not accountable for from the weather, and a palpable diminution of their sensibility. That in a little time more, his limbs were frequently convulsed by involuntary twitchings, particularly troublesome in the night: that soon after this, he not only became incapable of walking, but that his power either of retaining or discharging his urine and fæces was considerably impaired; and his penis became incapable of erection.

The adult also finds all the offices of his digestive, and respiratory organs much affected, and complains constantly of pain and tightness at his stomach.

In infants, the curve is seldom noticed till it has got to such size and state, as to demand attention from the deformity: previous to this, all the marks of distemper which appear in the child, pass for the effects of general weakness, and are treated as such; differently by different people, and under different circumstances, but never with any permanent good effect; some of the adventitious symptoms, if I may so call them,

them, are, in some degree, relieved, but the principal remain in full force, or, what is much more frequent, go on increasing.

In an adult it passes for rheumatism, or gravel, or a strain, and the defect in the limbs is the first thing that occasions an inquiry into the state of the back bone.

When a curvature is perceived in an infant, it is always supposed to have received a hurt by a blow, or fall, and an adult has always recourse to some exertion in pulling, drawing, lifting, or carrying, by which the spine is thought to have been deranged, or injured; but which supposition is seldom, if ever true in either case.

The true cause of the disease, is a morbid state of the spine, and of some of the parts connected with it; which distempered state of parts will, upon careful inquiry, be always found to have preceded the deformity some length of time; in infants this is the sole cause, and external violence has nothing to do with it. In the adult, I will not assert that external mischief is always and totally out of the question, but I will venture to affirm what is equal, as far as regards the true nature of the case, which is,
that

that although accident and violence may in some few instances be allowed to have contributed to its more immediate appearance, yet the part in which it shews itself, must have been previously in a morbid state, and thereby predisposed for the production of it. I do not by this mean to say that a violent exertion cannot injure the spine, nor produce a paralytic complaint, that would be to say more than I know; but I will venture to assert, that no degree of violence whatever is capable of producing such an appearance as I am now speaking of, unless the bodies of the vertebræ were by previous distemper disposed to give way; and that no supposable dislocation, caused by mere violence done to the bones of the back, which bones were before the receipt of the injury in a sound state, can possibly be attended with the peculiar symptoms of a curved spine. In which distinction, according to my judgment, consists the very essence of the disease. Violence may easily be supposed to bring the two vertebræ nearer to each other than they ought to be, and by crushing an intermediate one to produce a curvature; but then the body of the vertebræ so crushed,

ed,

ed, must have been in a distempered state previous to such violence: great violence may also suddenly and immediately displace a perfectly sound vertebræ from its proper and natural situation, with regard to those annexed to it; but the necessary consequences of these two kinds of injury must be so very different, that they never can be confounded together, or mistaken for each other, even by the most inattentive observer.

The true curvature is invariably uniform in being from within outwards; but it varies in situation, in extent, and in degree; it affects the neck, the back, or the loins; it comprehends one vertebra only, or two, or more; and as few or more are affected, or, as these are more or less morbid, and consequently give way more or less, the curve must be different; but whatever variety these circumstances may admit, the lower limbs alone,^b in general, feel the effect.

Some

^b Since I began to put these papers together, I have seen two cases, in one of which the arms only were affected, in the other both legs and arms.

Mr. E. Ford, of Golden Square, has favoured me with the examination and case of a lad, who lost the use of both legs,
and

Some are very soon after the curvature, rendered totally and absolutely incapable, not only of walking, but of using their legs in any manner; others can make shift to move about with the help of crutches, or by grasping their thighs just above the knees with both hands; some can sit in an armed chair without much trouble or fatigue, others cannot sit up with any help; some retain such a degree of power of using their legs, as to be able to shift their posture when in bed; others have no such power, and are obliged to be moved upon all occasions.

Weak and delicate children are the most frequent subjects of this distemper; and when in these, it seizes on the dorsal vertebræ, great deformity of the trunk both before, and behind, is the almost inevitable and necessary consequence; this will be different in different persons; but let the difference in this be what it may, it is an adjunct circumstance; and upon due inquiry it will always

and both arms, from a curvature which Mr. Ford cured by means of the caustics.—Mr. Parke, of Liverpool, has also obliged me with an account of two persons, both under his care, both with useless arms and legs, and both cured by the same means.

be found that the curvature from within outward, preceded the other deformity, and was, at one time, the only one to be seen.

Before the alteration of figure in the back bone has been discovered, all the attention is paid to the limbs, in which the whole disorder is supposed to reside; and all the applications for relief are made to them: frictions, liniments, embrocations, blisters, &c. to which is generally added cold-bathing and electricity; when the curvature has been noticed, recourse is immediately had to back-boards, collars, steel boddice, swings, screw-chairs, and other pieces of machinery, but all to no purpose; the patient becomes daily more and more helpless and unhealthy, languishes for more or less time, and at last dies either in an emaciated state from an hectic, or by a drain from an abscess formed within the body.

That this is the case frequent and melancholy experience evinces, but why it is so, is perhaps not generally so well understood, or attended to as it ought to be.

The primary and sole cause of all the mischief, is a distempered state of the parts composing or in immediate connexion with
the

the spine, tending to, and most frequently ending in a caries of the body, or bodies, of one or more of the vertebræ: from this proceed all the ills whether general, or local, apparent, or concealed; this causes the ill health of the patient, and, in time, the curvature. The helpless state of the limbs, is only one consequence of several proceeding from the same cause; but though this effect is a very frequent one, and always affects the limbs in nearly the same manner; yet the disease not having its origin in them, no application made to them only can ever be of any possible use.

The same failure of success attends the use of the different pieces of machinery, and for reasons which are equally obvious.

They are all, from the most simple to the most complex, but particularly the swing and the screw, calculated to obviate and remove what does not exist. They are founded upon the supposition of an actual *dislocation*; which never is the case, and therefore they always have been and ever must be unsuccessful.

To understand this in the clearest and most convincing manner, we need only reflect on
the

the nature of the disease, its seat, and the state in which the parts concerned must necessarily be.

The bones are either already carious, or tending to become so; the parts connected with them are diseased, and not infrequently ulcerated; there is no displacement of the vertebræ with regard to each other, and the spine bends forward only because the rotten bone, or bones intervening between the sound ones give way, being unable in such state to bear the weight of the parts above. The most superficial reflection on this must point out to every one, why attempts of this kind can do no good, and a little more attention to the subject will shew why they may be productive of real, and great mischief. The bones are supposed to be sound, but displaced; these machines are designed to bring them back to their former situation, and thereby to restore to the spine its proper rectitude; if therefore they have any power, that power must be exercised on the parts in connexion with the curve; which parts, when the disease is at all advanced, are incapable of bearing such a degree of violence without being much hurt thereby: this, if it were

4 merely

merely theoretical, being a conclusion drawn from the obvious, and demonstrable state of the distempered parts, could not be deemed unreasonable; but, unfortunately for the afflicted, it is confirmed by practice. They who have had patience and fortitude to bear the use of them to such a degree as to affect the parts concerned, have always found increase of pain and fever, and an exasperation of all their bad symptoms, and I have known more than one instance in which the attempt has proved *fatal*.

The use of some or other of these pieces of machinery is so general, and the vulgar prejudice in their favour so great, that notwithstanding I have been long convinced of their perfect inutility, yet if I had no other objection to them, I would not attempt to rob the afflicted of what they seem to derive such comfortable expectation from; but as I am satisfied of their mischievous effects, not only in the case of the present subject, but in many others; I cannot help bearing my testimony against the indiscriminate and very improper use which is daily made of them.

They are used with design to prevent growing children from becoming crooked or
misshapen

misshapen, and this they are supposed to do by supporting the back-bone, and by forcing the shoulders unnaturally backward; the former they cannot do, and in all cases where the spine is weak, and thereby inclined to deviate from a right figure, the latter action of these instruments must contribute to, rather than prevent such deviation; as will appear to whoever will with any attention examine the matter: if, instead of adding to the embarrassments of children's dress by such iron restraints, parents would throw off all of every kind, and thereby give nature an opportunity of exerting her own powers; and if in all cases of manifest debility recourse was had to friction, bark, and cold bathing, with a due attention to air, diet, exercise, and rest, the children of the opulent would, perhaps, stand a chance of being as stout, as straight, and as well shapen as those of the laborious poor.

When a child appears to be what the common people call naturally weakly, whatever complaints it may have are supposed to be caused by its weak state, and it is generally believed that time and common care will remove them; but when a curvature has

made its appearance, all these marks of ill health, such as laborious respiration, hard cough, quick pulse, hectic heat and flushing, pain and tightness of the stomach, &c. are more attentively regarded, and set to the account of the deformity consequent to the curve, more especially if the curvature be of the dorsal vertebræ, in which case the deformity is always greatest: but whoever will carefully attend to all the circumstances of this disorder, will be convinced, that most, if not all the complaints of children, labouring under this infirmity, precede the curvature, and that a morbid state of the spine, and of the parts connected with it, is the original and primary cause of both^c.

I have in the former edition informed the reader, that my particular attention to this

^c When I published the first edition of this tract, I was not so aware of this truth, as a more enlarged experience in, and a more careful attention to the disorder since has made me.

I am very glad to embrace this opportunity of acknowledging, and of correcting the mistake, and the more so as I am convinced that an inference of the greatest importance may be drawn from it. I am satisfied that this malady may, in many instances, by early and proper attention, be prevented from producing its otherwise inevitable consequences, temporary lameness, and permanent deformity.

disease

disease was first excited by an instance of its being cured by a seemingly accidental abscess; that this first gave me reason to suspect, that we had mistaken an effect for a cause, and, that upon mature deliberation upon the matter, I was still more inclined to think so for the following reasons.

1. “ That I did not remember ever to
“ have seen this useless state of the limbs
“ from a mere mal-formation of the spine,
“ however crooked such mal-formation
“ might have made it.

2. “ That none of those deviations from
“ right shape, which growing girls are so liable to, however great the deformity might
“ be, was ever attended with this effect.

3. “ That the kind of deformity, which
“ was attended with this affection, of the
“ limbs, although it was different as to its
“ degree, and its extent in different people,
“ yet it was uniform in one circumstance,
“ which was, that the curvature always was
“ from within outwards.

4. “ That since I had been particularly
“ attentive to the disorder, I thought that
“ I had observed, that neither the extent,
“ nor degree of the curve, had in general

H h 2 “ produced

“ produced any material difference in the
“ symptoms, but that the smallest was when
“ perfectly formed, attended with the same
“ consequences as the largest.

5. “ That although it had sometimes
“ happened, that a blow, or a strain, had
“ preceded the appearance of the curve, yet
“ it much more frequently happened, that
“ no such cause was assignable.

6. “ That I had observed exactly the same
“ symptoms in infants, and in young chil-
“ dren, who had neither exerted themselves,
“ nor were supposed to have received any
“ injury from others; and that the case was
“ still the same in those adults, who had no
“ such cause to look to.

7. “ That although it might be expected,
“ that a dislocation of any of the vertebræ,
“ would be attended with symptoms of the
“ paralytic kind, yet they would be very
“ unlike to those which affected the limbs
“ in the present case.”

The suspicions which these circumstances
had excited in my mind, were confirmed^d,
by

^d In the first edition I had described the bones on which
the disease had seized, as being enlarged and spread; upon re-
peated

by what I had a few opportunities of observing, in the dead bodies of some who had died afflicted with this disorder, and altogether satisfied me, that there must be something predisposing in the parts concerned; and that when we attribute the useless state of the limbs merely to the curvature, we mistake, as I have just said, an effect for a cause.

At the same time I gave an account of a conversation, which passed between me and the late Dr. Cameron, of Worcester, who told me, that having remarked in Hippocrates, an account of a paralysis of the lower limbs, cured by an abscess in the back, he had, in a case of useless limbs attended with a curvature of the spine, endeavoured to imitate this act of nature by exciting a purulent discharge, repeated enquiry and examination, I am convinced that they are not.

The bodies of the vertebræ concerned are often affected; while the ligaments bear but little mark of distemper; but whether the ligaments be affected, or not, the bodies of the vertebræ are always diseased, which disease does not so properly *enlarge* as *erode*: the state also of the intervertebral cartilages, I find to be subject to great variety, they being sometimes totally destroyed, while the caries is small in degree, sometimes apparently but little injured, where the caries has done considerable mischief, and sometimes totally destroyed and annihilated.

and that it had proved very beneficial ; which was confirmed to me by Mr. Jeffrys, of Worcester, who had made the same experiment with the same success^c.

From the time of my receiving this first information to the present, I have sought every opportunity of making the experiment ; St. Bartholomew's hospital has seldom been without cases of this kind, and it is with infinite pleasure and satisfaction, that I find myself enabled to say, that in all cases where the complaint has been so circumstanced as to admit of even probable expectation, the attempt has been successful.

If the cure of this most dreadful distemper had depended upon an application to the constitution in general, it might have required a variety of medicines, the administration of which must have demanded judgment in adapting them to particular

^c In this place of the first edition, I have a short account of the first two or three cases which occurred to me ; in this I omit them as needless.

The number of experiments which have been made by many of the most eminent practitioners, at home and abroad, have sufficiently established the fact, and render the relation of particular cases unnecessary.

persons and constitutions ; and it must also, in the nature of things, have happened that many individuals could not have been benefited at all. But fortunately for the afflicted, the means of relief are simple, uniform, and safely applicable to every individual, under almost every possible circumstance, not attended by the smallest degree of hazard, and capable of being executed by any body who has the least portion of chirurgic knowledge : it consists merely in procuring a large discharge of matter, from underneath the membrana adiposa on each side of the distempered bones forming the curvature, and in maintaining such discharge until the patient shall have recovered his health and limbs. They who are little conversant with matters of this sort, will suppose the means very inadequate to the proposed end ; but they who have been experimentally acquainted with the very wonderful effects of purulent drains, made from the immediate neighbourhood of diseases, will not be so much surpris'd at this particular one ; and will immediately see how such kind of discharge, made, and continued from the distempered part, checks the fur-

ther progress of the caries, gives nature an opportunity of exerting her own powers, of throwing off the diseased parts, and of producing by incarnation an union of the bones (now rendered sound,) and thereby establishing a cure.

However, be all this as it may, the fact is undoubted, and the number of witnesses, as well as patients producible in confirmation of it is so considerable, that it is needless to say any thing more on that head.

It is a matter of very little importance towards the cure, by what means the discharge be procured, provided it be large, that it come from a sufficient depth, and, that it be continued for a sufficient length of time^f.

I have tried the different means of setons, issues by incision, and issues by caustic, and have found the last in general preferable, being least painful, most cleanly, most easily manageable, and capable of being longest continued.

The caustics should be applied on each side of the curvature, in such a manner as

^f When I say this, I mean to signify that it is absolutely without limitation, and must depend on their beneficial effect,

to leave the portion of skin covering the spinal processes of the protruding bones, entire and unhurt, and so large, that the sores upon the separation of the eschars, may easily hold each three or four peas in the case of the smallest curvature; but in large curves, at least as many more.

These issues should not only be kept open, but the discharge from them should be maintained by means of orange peas, cantharides in fine power, ærugo æris, or any such application as may best serve the intended purpose, which should be that of a large, and long continued drain.

Whatever length of time it may take to obtain a complete cure, by restoring the health as well as the limbs, the issues must be continued at least as long; and in my opinion, a considerable time longer, especially in the persons of infants and growing children; the necessity of which will appear more strongly, when it shall be considered that infants and young children of strumous habits, are the subjects who are most liable to this distemper, and that in all the time previous to menstruation in one sex, and puberty in the other, they are in general
more

more served by artificial drains than any other persons whatever.

This, and this only, does or can alleviate the misery attending this distemper, and in proper time effect a cure.

By means of these discharges, the eroding caries is first checked, and then stopped; in consequence of which an incarnation takes place, and the cartilages between the bodies of the vertebræ having been previously destroyed, the bones become united with each other and form a kind of ankylosis.

The time necessary for the accomplishment of this, must in the nature of things, be considerable in all cases, but very different according to different circumstances.

No degree of benefit or relief, nor any the smallest tendency towards a cure is to be expected, until the caries be stopped, and the rotten bones have begun to incarn; the larger the quantity of bones concerned, and the greater degree of waste and havock committed by the caries, the greater must be the length of time required for the correction of it, and for restoring to a sound
state

state so large a quantity of distempered parts.—and vice versa^s.

In the progress toward a cure, the same gradation or succession of circumstances may be observed, as was found to attend the formation of the disease, with this difference, that they which attend the latter, are much more rapid than those which accompany the former.

After the discharge has been made some time, very uncertain what, the patient is found to be better in all general respects, and if of age to distinguish, will acknowledge that he feels himself to be in better health; he begins to recover his appetite, gets refreshing sleep, and has a more quiet and less hectic kind of pulse, but the relief which he feels above all others, is from having got rid of that distressing sensation of tightness about the stomach; in a little time more a degree of warmth, and a sensibility is felt in the thighs, which they had been strangers to for some time; and gene-

^s Nothing can be more uncertain than the time required for the cure of this distemper. I have seen it perfected in two or three months, and I have known it require two years; two thirds of which time passed before there was any visible amendment.

rally much about the same time, the power of retaining and discharging the urine and fæces begins to be in some degree exerted.

The first return of the power of motion in the limbs is rather disagreeable, the motions being involuntary and of the spasmodic kind, principally in the night; and generally attended with a sense of pain in all the muscles concerned.

At this point of amendment, if it may be so called, it is no uncommon thing, especially in bad cases, for the patient to stand some time without making any farther progress; this in adults occasions impatience, and in parents despair; but in the milder kind of case, the power of voluntary motion generally soon follows the involuntary.

The knees and ancles by degrees lose their stiffness, and the relaxation of the latter enables the patient to set his feet flat upon the ground, the certain mark that the power of walking will soon follow; but those joints having lost their rigidity, become exceedingly weak, and are not for some time capable of serving the purpose of progression.

The first voluntary motions are weak, not
constantly

constantly performable, nor even every day, and liable to great variation, from a number of accidental circumstances, both external and internal.

The first attempts to walk are feeble, irregular, and unsteady, and bear every mark of nervous, and muscular debility; the patient stands in need of much help, and his steps, with the best support, will be, as I have just said, irregular and unsteady; but when they have arrived at this, I have never seen an instance in which they did not soon attain the full power of walking.

When the patient can just walk, either with crutches, or between two supporters, he generally finds much trouble and inconvenience, in not being able to resist, or to regulate, the more powerful action of the stronger muscles of the thigh over the weaker, by which his legs are frequently brought involuntarily across each other, and he is suddenly thrown down.

Adults find assistance in crutches, by laying hold of chairs, tables, &c. but the best and safest assistance for a child, is what is called a go-cart, of such height as to reach under the arms, and so made as to inclose
the

the whole body: this takes all inconvenient weight off from the legs, and at the same time enables the child to move them as much as it may please.

Time and patience are very requisite; but they do in this case, as in many others, accomplish our wishes at last.

The deformity remaining after recovery is subject to great uncertainty, and considerable variety, as it depends on the degree of caries, and the number of bones affected: in general, it may be said, that where one vertebræ only is affected, and the patient young, the curve will in length of time almost totally disappear; but where two or three are affected, this cannot be expected; the thing aimed at is the consolidation and union of the bones, which had been carious, and are now become sound: this is the *sine quâ non* of the cure, and this must in such cases render the curvature, and consequently the deformity, permanent: the issues will restore the use of the limbs, but not the lost figure of the spine.

SINCE this method of treating the distemper has been made known, the disease itself has been more adverted to, and applications for relief have been more frequent than they were while it was regarded as incurable. The number received into St. Bartholomew's hospital, has been considerable, and as it may be supposed, some in a state to admit of cure, others not. While the thing was new, and before a number of cures sufficient to establish the fact had been wrought, it was doubted by most and positively denied by some; but since a variety of successes has put the matter beyond all doubt, with regard to the restoration of the use of the limbs, it has been said, that as the disease is manifestly a disease of the bones, it is to be apprehended, that the expectation of relief may in some cases fail, and that in others it may not prove permanent; that the same kind of constitution remaining, a return of the malady may be feared; and, in short, that a much greater degree of uncertainty may occur, than might be expected from the account which I have given.

To the first I answer, that in cases where the caries is very extensive, and the constitution

tution has been thereby so injured as to produce a degree of mischief tending to the destruction of the patient, no good is to be expected; the disease has been too long neglected, and is become thereby an overmatch for the remedy. But how does this differ from what may be said, with the same truth, of every disease, and of every remedy. To the second, third, and fourth remark, all I can say is, that in the space of three years, during which I have had many opportunities of making the experiment, I have met with but one single instance in which it has failed, where from the state of the disease, and of the patient, there was any reasonable foundation for hopes; that all those who have submitted to keep the issues open long enough, have been so restored to health, and to the free use of their limbs, as to be perfectly capable, not only of exercise, but of hard labour, and that I have never yet, among those so treated, met with one on whom the disease has returned.

On the other hand, the nature of the original distemper in the habit, its effects both local and general, the gradual, slow manner in which alone a cure is obtainable, and the particular

particular circumstance on which such cure entirely depends, I mean the removal of the caries, and the union of the bones with each other, all very strongly point out the propriety of continuing that discharge for a sufficient length of time, from which and from which only, such benefit has been derived.

AT the beginning of the preceding tract I have said, that when I first began to consider the distemper with that degree of attention which it seemed to deserve, I was inclined to suspect that we had hitherto regarded it too superficially; that we had been satisfied with observing its external appearance merely, without enquiring into its real nature; that we had thereby been led to mistake an effect for a cause, and that there must certainly be either in the constitution of the patient, or in the state of the parts concerned, something which tended to produce this very dreadful malady.

I am satisfied I was right in my conjecture, and am convinced, from every circumstance, general and particular, in the living, and

from every appearance in the dead, that the complaint arises from what is commonly called a strumous, or scrophulous indisposition, affecting the parts composing the spine, or those in its immediate vicinity.

This morbid affection shews itself in a variety of forms, but, although its appearances be various, yet they are always such as determine the true nature of the distemper.

Sometimes it appears in a thickened state of the ligaments, connecting the vertebræ together, without any apparent affection of the bones.

Sometimes in the form of a distempered state of the intervertebral substances, called cartilages.

Sometimes in that of diseased glands, either in a merely indurated and enlarged state, or what is more frequent, in that of a partial suppuration.

Sometimes it is found in the form of bags or cysts, containing a quantity of stuff of a very unequal consistence, partly purulent, partly sanious, and partly a curd-like kind of substance; and not unfrequently entirely of the last.

Sometimes

Sometimes under these bags, or cysts, even while they remain whole, the subjacent bones are found to be distempered, that is, deprived of periosteum, and tending to become carious.

Sometimes these collections erode the containing membranes, and make their way downward by the side of the psoas muscle, toward the groin, or by the side of the pelvis behind the great trochanter, or in some cases to the outside of the upper part of the thigh,

Sometimes each of the distempered states of these parts is accompanied by a greater or less degree of deformity, and crookedness of the spine without any apparent disease of the bones composing it: sometimes the deformity is attended with an erosion, or caries of the body or bones of some of the vertebræ; and sometimes the same bones are found to be carious, without any crookedness or alteration of figure.

These different affections of the spine, and of the parts in its immediate neighbourhood, are productive of many disorders, general and local, affecting the whole frame and habit

of the patient, as well as particular parts; and, among the rest, of that curvature which is the subject of this enquiry; and it may not be amiss to remark, that strumous tubercles in the lungs, and a distempered state of some of the abdominal viscera, often make a part of them.

From an attentive examination of these morbid appearances, and of their effects in different subjects, and under different circumstances, the following observations, tending not only to illustrate and explain the true nature of the disease in question, but also to throw light on others of equal importance, may I think be made.

1. That the disease which produces these effects on the spine, and the parts in its vicinity, is what is in general called the scrophula; that is, that same kind of indisposition as occasions the thick upper lip, the tedious obstinate ophthalmy, the indurated glands under the chin, and in the neck, the obstructed mesentery, the hard dry cough, the glairy swellings of the wrist and ancles, the thickened ligaments of the joints, the enlargement,

enlargement, and caries of the bones, &c. &c. &c.

2. That this disease, by falling on the spine, and the parts connected with it, is the cause of a great variety of complaints, both general and local.

3. That when these complaints are not attended with an alteration of the figure of the back bone, neither the real seat, nor true nature of such distemper are pointed out by the general symptoms, and consequently, that they frequently are unknown, at least while the patient lives.

4. That when by means of this distemper an alteration is produced in the figure of the back bone, that alteration is different in different subjects, and according to different circumstances.

5. That when the ligaments and cartilages of the spine become the seat of the disorder, without any affection of the vertebræ, it sometimes happens that the whole spine, from the lowest vertebræ of the neck downwards, gives way laterally, forming sometimes one great curve to one side, and sometimes a more irregular figure, produc-

ing general crookedness and deformity of the whole trunk of the body, attended with many marks of ill health.

6. That these complaints, which are by almost every body supposed to be the effect of the deformity merely, are really occasioned by that distempered state of the parts within the thorax, which is at the same time the cause both of the deformity and of the want of health.

7. That the attack is sometimes on the bodies of some of the vertebræ; and that when this is the case, ulceration or erosion of the bone, is the consequence, and not enlargement.

8. That when this erosion or caries seizes the body or bodies of one or more of the vertebræ, it sometimes happens that the particular kind of curvature which makes the subject of these sheets is the consequence.

9. That this curvature, which is always from within outward, is caused by the erosion or destruction of part of the body or bodies of one or more of the vertebræ; by which means that immediately above the
distemper,

distemper, and that immediately below it, are brought nearer to each other than they should be, the body of the patient bends forward, the spine is curved from within outward, and the tuberosity appears behind, occasioned by the protrusion of the spinal processes of the distempered vertebræ. See plate 1, 2, and 3.

10. That according to the degree of carious erosion, and according to the number of vertebræ affected, the curve must be less or greater.

11. That when the attack is made upon the dorsal vertebræ, the sternum and ribs, for want of proper support, necessarily give way, and other deformity, additional to the curve, is thereby produced.

12. That this kind of caries is always confined to the bodies of the vertebræ, seldom or never affecting the articular processes^h.

13. That without this erosive destruction of the bodies of the vertebræ, there

^h I have seen two cases in which the bodies of the vertebræ were totally separated from all connection with the other parts, leaving the membrane, which included the spinal marrow, perfectly bare. See plate 4.

can be no curvature of the kind which I am speaking of; or, in other words, that erosion is the *sine quâ non* of this disease; that although there can be no true curve without caries, yet there is, and that not infrequently, caries without curve. See plate 5.

14. That the caries with curvature and useless limbs, is most frequently of the cervical or dorsal vertebræ; the caries without curve, of the lumbar, though this is by no means constant or necessary.

15. That in the case of carious spine, without curvature, it most frequently happens, that internal abscesses, and collections of matter are formed, which matter makes its way outward, and appears in the hip, groin, or thigh; or being detained within the body, destroys the patient: the real and immediate cause of whose death is seldom known, or even rightly guessed at, unless the dead body be examined.

16. That what are commonly called lumbar and psoas abscesses, are not infrequently produced in this manner, and therefore when we use these terms, we should be understood to mean only a description of the course which
such

such matter has pursued in its way outward, or the place where it makes its appearance externally, the terms really meaning nothing more, nor conveying any precise idea of the nature, seat, or origin of a distemper subject to great variety, and from which variety its very different symptoms and events, in different subjects, can alone be accounted for.

17. That contrary to the general opinion, a caries of the spine is more frequently a cause than an effect of these abscesses.

18. That the true curvature of the spine, from within outward, of which the paralytic, or useless state of the lower limbs, is a too frequent consequence, is itself but *one* effect of a distempered spine; such case being always attended with a number of complaints which arise from the same cause: the generally received opinion, therefore, that all the attending symptoms are derived from the curvature, considered abstractedly, is by no means founded in truth, and may be productive of very erroneous conduct.

19. That in the case of true curvature, attended with useless limbs, there never is a *dislocation*, properly to be so called; but that
the

the alteration in the figure of the back bone, is caused solely by the erosion; and destruction of a part of one or more of the corpora vertebrarum; and, that as there can be no true curvature without caries, it must be demonstrably clear, that there must have been a distempered state of parts previous to such erosion; from all which it follows, that this distemper, call it by what name you please, ought to be regarded as the original cause of the whole, that is of the caries, of the curvature, and all the attendant mischiefs, be they what they may, general or particular: a consideration, as it appears to me, of infinite importance to all such infants and young children, as shew either from their general complaints, or from their shape, a tendency to this kind of evil; and whose parents and friends generally content themselves with a swing, or piece of iron machinery, and look no farther.

20. That whoever will consider the real state of the parts when a caries has taken place, and the parts surrounding it are in a state of ulceration, must see why none of the attempts, by means of swings, screws, &c. can

can possibly do any good, but on the contrary, if they act so as to produce any effect at all, it must be a bad one.

21. That the discharge, by means of the issues, produces in due time (more or less under different circumstances) a cessation of the erosion of the bones; that this is followed by an incarnation, by means of which the bodies of the vertebræ which had been the seat of the disease, coalesce, and unite with each other, forming a kind of anchylosis.

22. That the different degrees and extent of the caries, in different subjects, must render all attempts to cure uncertain, both as to the time required, and as to the ultimate event: the least and smallest degree will (every thing else being equal) be soonest relieved and cured; the larger and more extensive will require more time, and where the rottenness is to a great degree, and all the surrounding parts in a state of dis-tempered ulceration, it must foil all attempts, and destroy the patient.

23. That when two or more vertebræ are affected, forming a large curve, how-

ever perfect the success may be with regard to the restoration of health and limbs, yet the curvature will and must remain, in consequence of the union of the bones with each other.

24. That the useless state of the limbs is by no means a consequence of the altered figure of the spine, or of the disposition of the bones with regard to each other, but merely of the caries: of this truth there needs no other proof, than what may be drawn from the cure of a large and extensive curvature, in which three or more vertebræ were concerned: in this the deformity always remains unaltered and unalterable, notwithstanding the patient recovers both health and limbs.

Upon the whole, after due consideration of what has been said concerning the nature of the complaint, its producing cause, and the method by which it is capable of being cured, I would ask, whether the diseased state of the spine, and of the parts connected with it, (which, if not prevented, must produce some of its very dreadful effects,) may not, by a timely use of proper means, be prevented?

A morbid

A morbid state of parts previous to deformity, caries, or curve, must be allowed: every complaint of the living, and every appearance in the dead, prove it beyond contradiction or doubt. All the general complaints of persons afflicted with this disorder will always, upon careful enquiry, be found to have preceded any degree of deformity, to have increased as the curve became apparent, and to have decreased as the means used for relief took place: the pain and tightness about the stomach, the indigestion, the want of appetite, the disturbed sleep, &c. &c. gradually disappear, and the marks of returning health become observable before the limbs recover the smallest degree of their power of moving.

On the other hand, it is as true, that when from extent, or degree, or inveteracy of the caries, the issues are found to be unequal to the wished-for effect, the general complaints receive no amendment, but increase until the patient sinks under them.

If all this be true, which that it is, the manifold and repeated experience of many, as well as myself, can amply testify; and
if

if it be found that the issues are capable of effecting a perfect cure, even after a caries has taken place, and that to a considerable degree, which is also true to demonstration, is it not reasonable to conclude, that the same means made use of in due time might prove preventive?

If this was a matter of mere speculation, or opinion, I would be very cautious how I spake on the subject; but it is really a matter of experiment; and as far as I have had it in my power to put it to that test, it has succeeded, by the restoration of lost health, and the prevention of a deformity which was advancing rapidly.

It may, perhaps, be said, that if no such means had been used, the same space of time might have produced the same effect: to this it is impossible to make an answer: I shall, therefore, content myself with having given my opinion, with the circumstances and reasons on which it is founded.

I should be sorry to be misunderstood on this point, or to have it thought that I meant to say, that every weak or ricketty child was necessarily liable to a curved spine; or that issues were to be deemed an infallible remedy

medy for the ills arising from a strumous habit: far be it from me to say either: what I would wish to be understood to mean is, that such kind of habit appears to me to be most apt to produce some of the mischiefs mentioned in this tract: that as a purulent discharge, derived from the neighbourhood of the spine, is found, from repeated experience, to be a successful remedy, even after the disease is confirmed by a caries, it seems to me to bid fairer than any thing else, if used in time, to become a preventive; and, that as some other kinds of deformity are found to follow attacks of the same kind of constitutional disorder seizing on these parts, and which, though not causing precisely the same effect, are nevertheless attended with the same general symptoms; I cannot help thinking, that it may be well worth while to try whether benefit be not obtainable by the same means, in the one case as in the other; and if the old maxim, "*anceps remedium quam nullum*" be admissible, surely an experiment, which is in its nature perfectly incapable of harm, is worth makingⁱ.

ⁱ Since Mr. Pott published the above valuable tract, I have had many opportunities of proving the excellence of the remedy

medy which it recommends; and, from some cases which occurred, had collected such observations as appeared to me to contain incontrovertible evidence of the efficacy of the caustics in curvatures of the spine: but their utility is now so generally admitted, that it is not necessary to swell this work with them. I shall therefore confine myself to remark that, in the latter part of Mr. Pott's life, he had applied the same method of cure to other diseases; particularly in strumous affections of the joint of the hip, he had been several times successful in preventing an increase of caries, by means of an ulcer being established in the neighbourhood of it. In those deplorable cases, where one hip is let down below the other, where the parts are flabby, the glutæi muscles lose their firmness, the buttock its figure and convexity, and the leg is lengthened, he found that the progress of the disease may frequently be stopped, and the parts restored to their natural firmness and figure, by making an issue just below the great trochanter. Mr. Pott remarked that the time when the change will take place, and the restoration be complete, is indefinite: it may take place in a few weeks or months; or, as was observed with regard to the effect of caustics in diseases of the spine, it may require a much longer time. In short, every thing relative to the complaint is uncertain except the ultimate cure, which will rarely fail to reward our perseverance.

When the thigh was retracted, and accompanied with a considerable swelling, Mr. Pott was not sanguine in his prognostics of recovery, but spoke of most applications as ineffectual. Yet, even in these cases, I have known the caustics applied with great apparent advantage. I will take the liberty to describe the outlines of a case which I saw the latter end of last summer. I was desired by Mr. Berry to visit a girl about eighteen years of age. She complained of pain in her knee, leading up toward the hip; she could not straighten her thigh, which was drawn up toward the pelvis, and with great difficulty she could walk across the room: she had been electrified, and had used variety of remedies, by the advice of some gentlemen of eminence in the profession, to no purpose;—the complaint
grew

grew rapidly worse, and she was obliged to take to her bed. The thigh was now drawn up to the pelvis, the knee turned inward, and the appearance was as if the head of the femur was dislocated; the parts surrounding the hip were turgid and enlarged, exquisitely painful to the touch, and on the smallest motion; blisters, embrocations, fomentations, &c. were tried in vain. The pain was now become almost incessant, the disease continued to increase, and bore the appearance of matter forming in the joint, and we did not doubt but that a caries of the bone would be the consequence, probably attended with an exostosis. Though this was not a case in which Mr. Pott recommended an issue, I was determined to give her the chance of one: a caustic was accordingly applied below and posterior to the great trochanter. She did not appear to be much served by it at first, though we remarked that her pain was not so violent: in about six weeks she seemed to have recovered some benefit, and though the limb was still contracted she could straighten it better. I now found that the issue had been neglected and nearly suffered to close. I recommended it to be enlarged, which was done the beginning of September: in about a week after, when the suppuration was fairly established, she began to grow better, the joint became unlocked, and in a few weeks she had lost the pain of the hip, and was able to straighten the thigh and leg perfectly; soon after she walked across the room without help, only complaining of a little tenderness in the joint, and in no great length of time afterward was perfectly recovered.—I do not mean to speak with presumption or certainty; but, as no other method had been of the least service to her, as she appeared to receive some advantage from the first application of the caustic, and got perfectly well after the repetition of it, we may reasonably infer that they were the principal causes which produced the alteration and consequent cure. In those cases in which Mr. Pott succeeded a much longer time elapsed before the effect was produced.

Mr. Pott also used caustics in scrophulous swellings of the joint of the knee where there was suspicion of beginning caries; they

were applied just above and below the joint; in some cases they appeared to be materially serviceable in preventing the increase of the swelling, but in many others they failed.

In similar diseases of the joint of the ankle he also tried them; but, according to an observation of a very ingenious and accurate observer *, the effect of the caustics seems to be inversely as the distance of the part affected from the trunk; in these joints no advantage appeared to be derived from them. The idea, however, is worthy of its author, and deserves further trials; indeed whatever has the least chance of being beneficial ought not to be neglected in those desperate cases, which, if their progress be not prevented, terminate in the unavoidable loss of the life or limb.

E.

* Dr. Austin.

AN ACCOUNT OF TUMOURS

Which rendered

THE BONES SOFT,

Communicated to the Royal Society by Mr. POTT, Surgeon;

And printed in their Transactions, VOL. XLI.

IN November 1737 a gentleman aged 27, complained to me of a swelling in the inside of his right thigh (being in every other respect in perfect health). Upon examination it appeared to be an encysted tumour of the steatomatous kind, lying loose between the *sartorius* and *vastus internus* muscles. I told him, I could propose no way of curing it but by taking it out; which was accordingly done, and he was very well in six weeks.

After this he continued well for near a year (except that he now and then complained of a slight pain in the joint of that hip, which went off and returned at different times); and then fell into such a disposition to sleep, that no company or diversion, nor his own endeavours to the contrary, could keep him awake after eight or nine o'clock in the evening, if he sat down.

This continued on him for three or four months, and then the pain in his hip grew worse; for which he used the cold bath, flesh-brush, and riding on horseback, but without any effect.

Hereupon he asked the advice of Dr. *Beaufort*, who put him into a course of the *æthiops mineral*, *cinnabar* of *antimony*, and *gum-guiacum*, with the *Spa-water*, and purging with *calomel* by intervals. This method he pursued for a considerable time, but without any benefit.

After this, by the advice of some acquaintance, he took half a drachm of *salt* of *hartshorn*, night and morning, in a draught of warm *whey*, for some time, but without any sensible effect, even by perspiration.

Some little time after this, he began to complain of a slight periodical heat and thirst, which returned every night, with a quick hard pulse, but which was not so great as to make him uneasy.

It was now September 1739, when, having an opportunity of going with some friends, he determined to try what the *Bath* would do for him: In his journey thither the nocturnal heat and thirst increased so much as to prevent
his

his sleeping; but in the few days that he spent in recovering from the fatigue of the journey they seemed to go off again.

He then began to use the waters both internally and externally; upon which the last mentioned symptoms again appeared, and he was obliged to desist, and use cooling medicines.

His physicians then advised him to bathe the affected limb only; upon which they returned again, and with such violence, that the farther use of the waters was thought highly improper, and he left them off.

During this time the sight of his left eye grew dim, which dimness increased gradually for some little time, till he became quite blind of that eye; the bulb of it being considerably enlarged, and thrust forward out of the orbit.

For the most part of the time he had been at Bath he had generally been very costive; and upon leaving off the water, had no stool for some days; for which reason a common clyster was given, and produced so profuse a discharge of ferous matter, and continued for so many hours, (almost incessantly) that he was reduced as low as possible.

For some time past several small tumours had appeared in different parts of him, *viz.* five or six on his head, two or three in his back, and one in the neck; all lying just under the skin, and sensibly increasing every day till they came to a considerable size.

December the 2d, 1739, he returned to London.

His chief complaints now were an excessive languor, an inability to move his right hip and, when moved by another person, a very acute pain in it, an incapacity of sleeping when in bed, and an intense thirst in the night, with a quick hard pulse.

He now took the advice of Dr. Hartley and Dr. Shaw, who prescribed him the *cinnabar* of *antimony* three times a day, to drink the Selters waters, and keep to a cooling regimen; and allowed him a moderate dose of the pill *Matthæi* every night; by means of which he got some sleep, of which he had for some time been absolutely deprived.

When he had taken the *cinnabar* five or six days, and during that time had no stool, it was thought proper to give him a clyster; which brought away all the medicine, without the least alteration; nor was there ever

after

after this time any appearance of any mucus being secreted by the intestinal glands, he never going to stool above once in a week, and then there came away a few lumps of excrement as hard as pieces of wood, which were expelled with such labour and fatigue as can hardly be imagined, though he generally took an oily clyster to render it more easy, and washed down his medicines with a soapy draught.

The joint of the hip was now become quite stiff, all the inguinal glands being loaded with the same kind of matter of which the other tumours seemed to be composed; and a large cluster more of them might be felt under the *glutei muscles* and behind the *trochanter*.

The *cinnabar* was now left off, and mercurial unction proposed and consented to; and accordingly a proper quantity was rubbed in every night, stopping now and then to see what turn it would take; and in this course he continued for more than a month, but without any benefit; nor did the *mercury* produce any visible effect on him.

Sir Edward Hulse, being called in, directed the burnt sponge, which he took for some

time, till growing worſe and weaker he determined to try Mr. Ward.

He took his ſweating and purging medicines two or three times, but found no fort of effect from them; and being now quite tired of phyſic, and reduced extremely low, he determined to paſs the reſt of his time as eaſily as he could, by gradually increaſing his opiate; and in this manner languiſhed, incapable of ſtirring or helping himſelf, till the 2d of May, 1740, and then died.

For a conſiderable time before he died, he was nouriſhed by fluids only: yet, as ſoon as ever they were received into the ſtomach, in however ſmall quantity, they gave him an acute pain at the bottom of his belly, juſt above the *pubis*.

For two months, or more, before his death, he could never make any water while he was up, but always made a good deal at different times when in bed.

Soon after his return to London I opened the tumour I had taken out of his thigh two years before, and found the inſide of it oſſified.

Upon diſſection the firſt thing that offered itſelf was a large *tumour* on the *ſternum*, which had been perceived about three months before

he

he died : It was as large as a *turkey's egg*, and so hard and immoveable, that I was in doubt whether it was upon or under the bone.

Upon removing the skin, it appeared covered by the expansion of the tendons of the intercostal muscles, and the periosteum : this coat being taken off, it was of a fleshy kind of substance for about half an inch deep ; and below this was a kind of cartilage intermixed with a great many bony particles. I then shaved off all this diseased body even with the surface of the rest of the *sternum*, but found no bone, it being quite dissolved and confounded with the mass of matter that composed the *tumour*, which was equally protuberant within the *thorax*, and composed of the same materials.

Part of the fifth and seventh ribs were dissolved in the same manner into a kind of substance between bone and cartilage, with a thick coat of steatomatous matter.

Within the cavity of the *thorax* were thirty seven of these diseased bodies, most of them attached either to the *vertebræ* or the ribs ; and wherever they were attached, the *cortex* of the bone was destroyed, and its internal cellular part filled with the diseased matter.

Immediately

Immediately above the *diaphragm* was a large scirrhus body, lying across the spine and the *aorta*, the latter of which lay in a *sinus* formed in its lower part; it had no attachment to any other part, and weighed 13 ounces and a half; and from its situation, I think, must have taken its rise from some of the *lymphatic glands* lying about the *thoracic duct*.

From the origin of the *aorta*, from the heart quite up to the basis of the *cranium*, all the blood-vessels were surrounded with these scirrhus bodies, and the *thyroid gland* was diseased in like manner, and bony within.

On the left side was another of these bodies, made out of the *glandula renalis*, weighing nine ounces three quarters.

On the right, the *glandula renalis* was in a natural state; but the *cellular membrane*, which surrounds the kidney, was filled with a large cluster of these bodies of different sizes, some of them entirely fleshy, others intermixed with bony particles. Three or four of them were attached to the body of the kidney, and these were a sort of *cartilage*, beginning to ossify.

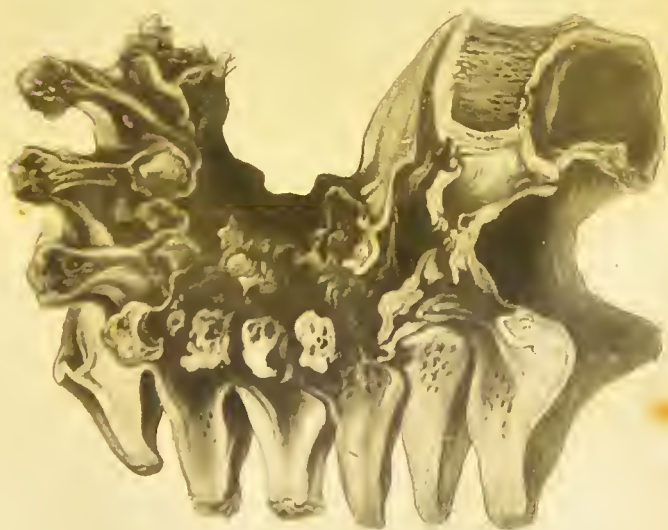
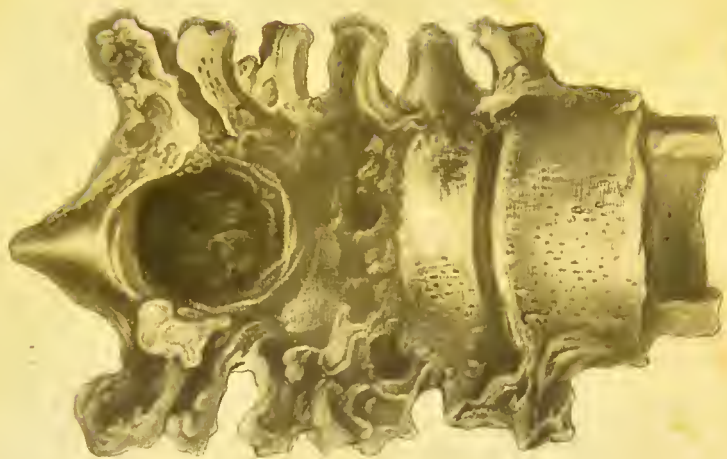
The pancreas was quite scirrhus and very large.

One very large tumour sprung from the spongy body of the third vertebra of the loins; the

the bony texture of which was so dissolved, and mixed with the matter of the tumour, that the knife passed through it with great ease.

The inner side of the *os ilium*, all the *ischium* and *pubis*, were covered with these appearances; and upon removing them, the bone was found in the same state as the *sternum* and ribs; the middle of the right *os femoris* was surrounded with a mass of the same matter, and the bone underneath in the same state.

In the bottom of the orbit, surrounded by the *recti muscles*, was a pretty large steatoma, which occasioned the protusion of the eye; and, by pressing on the optic nerve, (in all probability) the blindness.























A View of some of the Vertebrae in a case of Curved Spine which had been Cured by the Caustic, & which were taken from the body of the Patient who died of another Distemper at some distance of Time after. In this may be seen the State of the Vertebrae which had been Crushed, and of the Consequent Anchylosis or Union?

Oct. 20. 1782. Engraved on the steel plates by J. Johnson London.

R. Laurie fecit



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